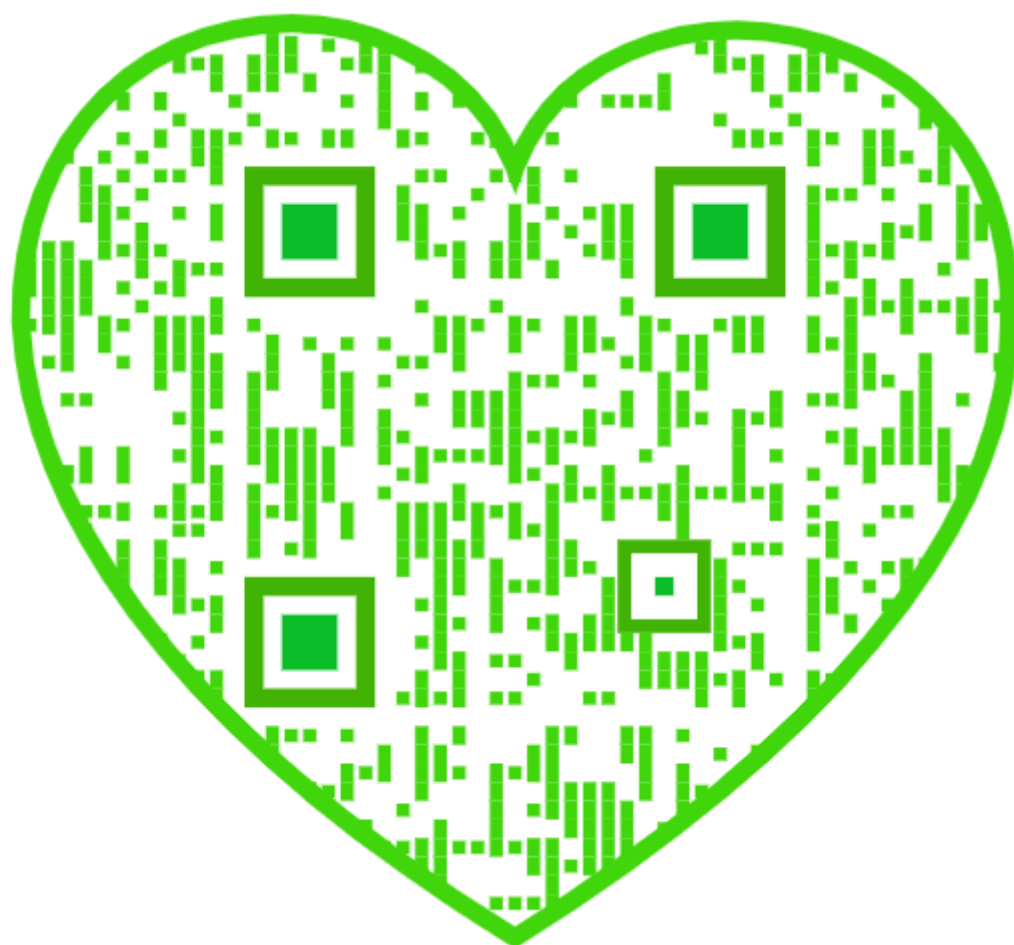


Bicycling



**THE
MESSY,
SUBLIME
MAGIC OF
SHIFTING**

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SPRING 2025

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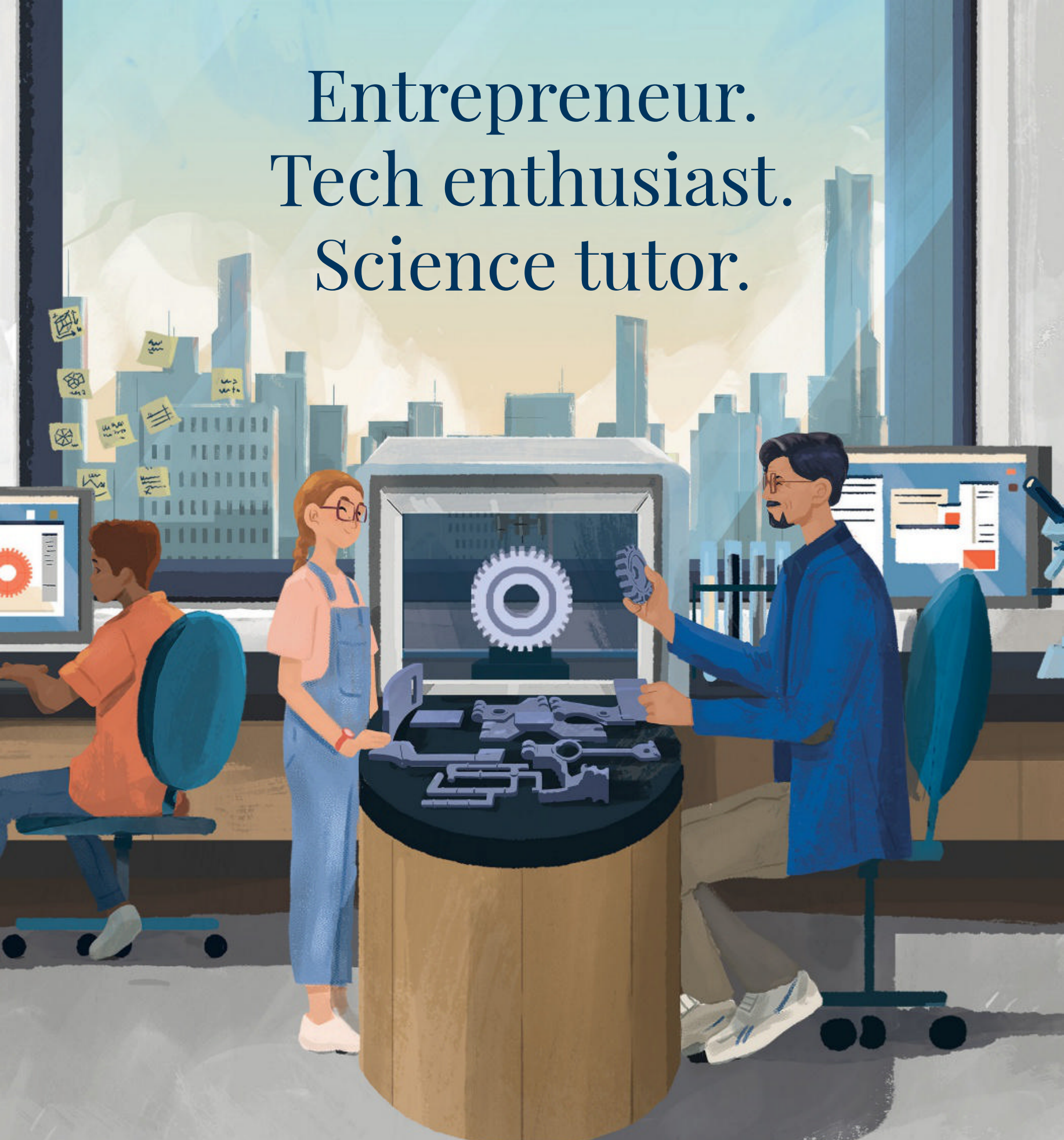
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An illustration of a modern, open-plan office or lab. In the center, a man in a blue suit and glasses is holding a small gear, looking at it. To his left, a woman in a pink shirt and blue overalls is standing and looking at a large, cylindrical wooden table. On top of the table is a 3D printer with a large gear inside. To the left of the woman, a man in an orange shirt is sitting at a desk, working on a computer. The background shows a city skyline with various buildings and a large window. The overall style is a mix of realism and stylized illustration.

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WELCOME TO A REIMAGINED **BICYCLING.** THE PAGES IN THIS DOUBLE ISSUE ARE INFORMED BY A **SET OF BELIEFS**

integral to how we think about and write about cycling. The stories inside are created with our passion for riding and a genuine enthusiasm for helping you get more joy, performance, fitness, and adventure from your own ride. These days, we're publishing more stories than we ever have, much of it directly for our members. And we realize (because we listen to you) that many of you are interacting with our content in spaces outside of the magazine: through our newsletter, website, videos, social channels, and emerging platforms like Apple News. In a digital culture, the point of print is changing, too. We want the version of *Bicycling* you hold in your hands to provide you with a highly curated, immersive experience, something we hope you'll want to set aside time to read. To that end, this issue, and future ones, contains even more pages. And no matter where you find us, *Bicycling* remains guided by a team of experienced journalists, product reviewers, trainers, coaches, photographers, and storytellers. **GET TO KNOW A FEW OF THEM NOW.**

For our members and print subscribers: Bicycling will now pack more of the content you love in print. This expanded Spring issue will count as two, and your subscription terms remain the same.

THE CYCLING FANATICS GUIDING BICYCLING

DAN CHABANOV → I found cycling as a bike messenger but quickly moved into racing, winning the Red Hook Crit three times and the cyclocross Master's National Championship in 2018. That same year, I rode the L'Eroica route in Tuscany with my partner. Getting engaged on the wall of an Italian castle in our cycling kit is still something I can't believe I got to do. **I'm fanatical about:** All the ways cycling connects us. I'm grateful for the lifelong friendships I've made riding bikes.

NATASCHA GRIEF → I started as a mechanic, becoming one of only three women at the time with a USA Cycling Race Mechanic license. I later apprenticed for framebuilder Brent Steelman, worked for several cycling brands, and then became a coach and personal trainer. **I'm fanatical about:** The fact that women's pro cycling is finally starting to get its due.

BOBBY LEA → I raced professionally for more than a decade, and was a member of the U.S. Olympic track team in 2008, 2012, and 2016. I still get misty-eyed when I remember my first Olympics: pushing off from the start line at Beijing's Laoshan Velodrome, my wheels rolling over the Olympic rings painted on the boards of Siberian pine and the roar of the crowd anticipating the event to come. It was my childhood dream coming true. **I'm fanatical about:** Getting more kids on bikes.

MATT PHILLIPS → Ever since I can remember, cycling has been the biggest thing in my life. When I was a kid, I tagged along with my dad to his bike races. I worked in bike shops. I chose my university because there were mountain bike trails nearby. I started working at a cycling magazine as an intern in late 1995 and joined *Bicycling* in 1997. I've been here ever since. **I'm fanatical about:** That reasonably priced bike gear now performs almost as good as outrageously priced stuff.

TARA SEPLAVY → Before joining *Bicycling*, I developed bicycles, managed professional race teams, and wrenched in busy bike shops. Among my proudest moments are riding the Whistler Bike Park with my kids, finishing the Trans-Provence stage race (twice!), and having a bike I helped design win a World Championship. **I'm fanatical about:** The amazing variety and functionality of bikes. Across all categories and prices, today's bicycles perform at an exceedingly high level.



MORE GREAT STUFF LIKE THE STORIES IN THIS ISSUE



IF YOU LIKE
WHAT THIS
GEAR EDITOR
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MONEY ON
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CHECK OUT

GEAR
OF THE
YEAR



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IS THERE SUCH A THING AS THE BEST BIKE?

WHEN SOMEONE LEARNS I am an editor for *Bicycling*, they often ask, “So, what’s the best bike?”

Simply answering “There is no best bicycle” might sound like the easy out, but it actually opens the door to more prodding, questions, and discussion.

The best bike generally isn’t the lightest, nor is it the fastest. It probably didn’t carry a professional to Tour de France glory or a World Championship rainbow jersey. And quite often, it’s far from the most expensive machine on the market.

Many cyclists over-obsess about buying “the best” bicycle; it seems to be in our DNA. When researching a new bike purchase, we pore over geometry charts and dissect the nuances of manufacturers’ specifications. We read reviews, dive down internet rabbit holes, and talk to other cyclists to winnow out or justify potential options.

And those options for great bikes are seemingly endless—it’s a bottomless bidon of choice across dozens of riding categories, subcategories, and niches. Buyers must decide: Should I buy a race bike or endurance, SRAM or Shimano, with or without suspension, e-bike or non-assisted? The razor-thin differences between brands (and sometimes even within a company’s product line) can make selecting a new bicycle challenging for many riders. The choices can mentally paralyze you.

This sheer overabundance of excellent bike choices can cause FOMO—fear of a better option—when you cannot decide because you’re afraid another, even better, option awaits. You may have experienced it: You’re almost set to lay down cash on brand X when photos of a new, top-secret



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FROM A STRICTLY FUNCTIONAL STANDPOINT, PURCHASING AN ABSOLUTELY AMAZING BIKE IS MUCH EASIER THAN BUYING A CERTIFIED STINKER.

bike leak from brand Y. Then you wait for that new bike's release only for brand Z to announce its latest model. Instead of having a great time riding a new bike on the trail or the road, you're stuck with your old bike that now brings you no joy, or worse—you don't ride at all.

If you bought that bike from brand X and now fear buyer's remorse, I also get it; it's a real emotion, and a bike can be a big investment. But I'm here to assure you that, more than likely, you made a solid choice. It's a golden age of bicycle performance. Bikes are very, very good right now.

While appearance is always subjective, from a strictly functional standpoint, purchasing an absolutely amazing bike is much easier than buying a certified stinker. Almost without exception, new bicycles (regardless of price, category, and where they're sold) operate better than ever. While some may have particular service needs or quirks, virtually all new bikes are capable and reliable.

Bicycle companies generally have sizing and geometry pretty dialed. If you require a more precise fit or have particular needs or preferences, there are plenty of options for component changes. Recently launched bikes ride more smoothly and confidently than their predecessors. Drivetrains shift almost flawlessly, and brakes have more power and modulation than ever.

Sure, a \$10,000 road bike with Shimano Dura-Ace will likely ride faster on the road, shift more precisely, and stop quicker than an \$800 gravel bike with Claris. However, a race bike with Dura-Ace rides very similarly to a race bike equipped with SRAM Red. Many riders cannot distinguish a ride-quality difference between comparably equipped bikes, certainly not enough to keep them from enjoying the bike.

When I worked in bike shops or at events for brands, riders often inquired about which bike

to purchase. Usually, I'd ask them, "Where do you want to ride?" or "What issue with your current bike do you need to resolve?" These questions help establish a cyclist's riding intent and narrow the choices.

But now, when friends or readers ask me what bike to buy, I instead ask, "What will make you ride more?" or "What do you need to ride happier?"

Think back to the bicycle that got you hooked on riding. I'm willing to bet it didn't threaten the UCI's minimum weight regulation and probably wasn't constructed from carbon fiber or aero-optimized in a wind tunnel. Perhaps it didn't fit you correctly or ride all that well.

I also bet that bike made you happy. Otherwise, you'd not have fallen in love with cycling. That detail alone made it good enough to qualify as a great bike.

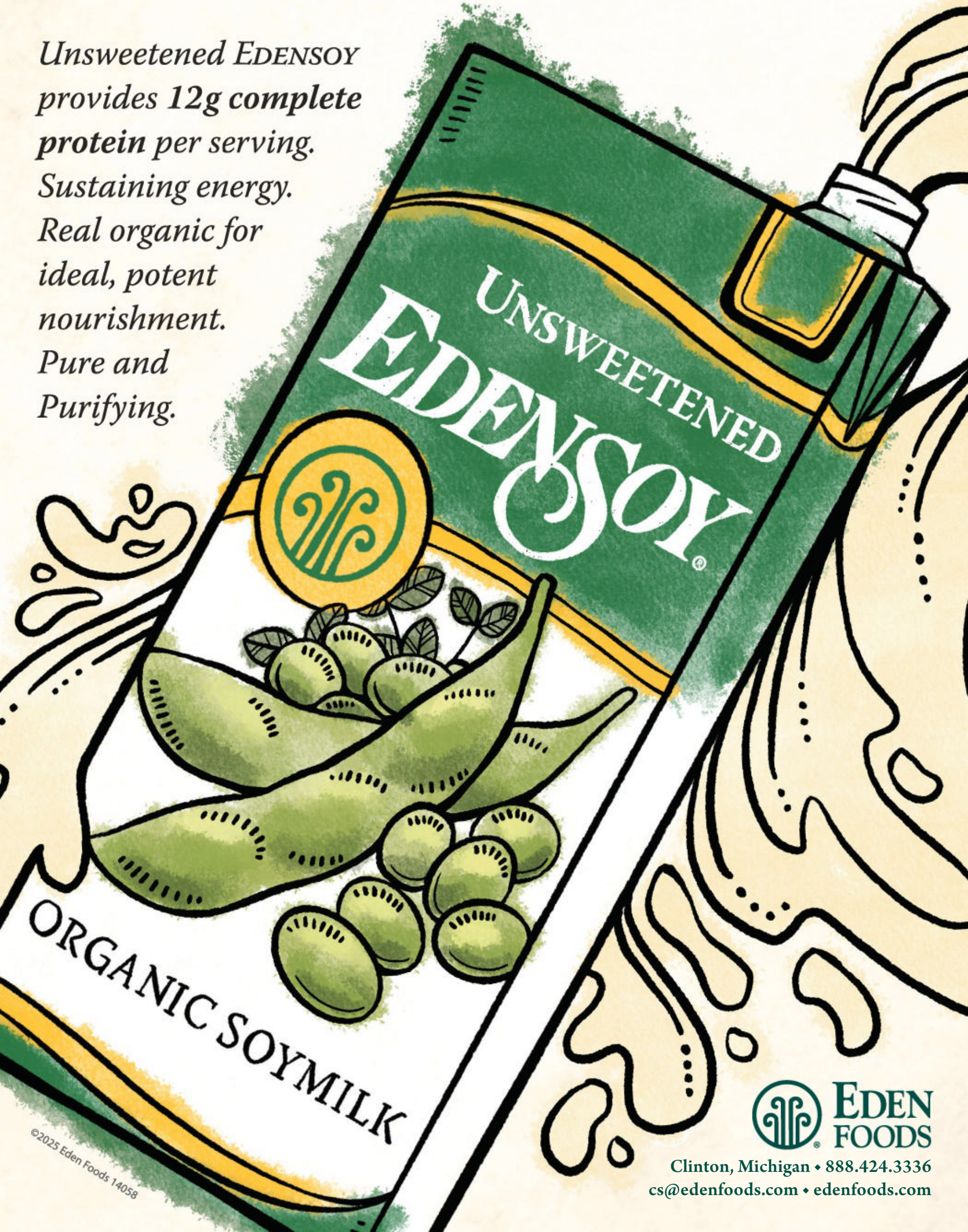
So yes, the "best bike" actually does exist—and you might already own it. Whichever bicycle gets you stoked to ride is the best bike.

Rather than sweating the nuances of specification and millimeter differences of geometry, look for characteristics that will bring you joy. If a bicycle with a sparkle paint job or fenders and lights makes you smile and ride more, it's the best bike for you. If someone else rides more and is happier thanks to an aero race bike with skinny tires or an electric bike with fat tires, that's the best bike for them. **B**

Deputy Editor Tara Seplavy sold the best bike she ever owned—an Iron Horse Sunday downhill bike in Volkswagen jazz blue paint with serial number SKA-001. She wants to buy it back if you have it.

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I'VE BEEN A GEAR EDITOR FOR 30 YEARS: HERE'S WHAT IS—AND ISN'T—WORTH YOUR MONEY



THE GEAR I SPLURGE ON

BIKE FIT → I spend hours and hours on a bike, and I want every minute to be as comfortable and fun as possible. For a long time, I used the fit I developed by listening to my body, and that worked okay, but it always seemed like there was more potential than I could find on my own. A professional fit at Cyclogic unlocked that potential. They made a series of adjustments that led to noticeably better performance and comfort. My new, better fit was especially noticeable on long rides and after unbroken blocks of riding.

But bike fits aren't one-and-done. Ten years after getting my last fit, I went through a new fit consultation, which, like last time, resulted in a handful of tweaks that have already paid dividends.

MAINTENANCE TIME AND TOOLS → I pay attention to my bikes as I ride, listening for new or strange noises and noticing if the bike starts to feel or handle differently—indications that something needs attention. By splurging on maintenance time, I usually find and address issues before they become a problem on a ride, so my bikes are always running fast, smooth, and quiet; they last

a long time, and I don't encounter nagging issues.

I recommend investing in good tools, especially a torque wrench. High-quality instruments last longer and are less likely to damage delicate parts.

TIRES → High-performance tires are magical. At the right pressure, they make your bike faster and smoother, and they grip better, so you can ride more comfortably and confidently.

Considering they're one of the cheapest pieces of cycling hardware, good tires have the greatest ratio of performance gained per dollar spent. So yeah, I'll happily spend nearly \$100 per tire for the Pirelli P Zero Race TLR RS or the Vittoria Mazza Enduro.

GOOD BEARINGS → The thing about bearings is they get worked hard every ride, which is why they're the bike's most maintenance-intensive parts after chains, cogs, and rings. And they're buried where it takes work to reach them for service, especially in this era of internally routed brake hoses.

That's why I'll pay more for good bottom brackets, headsets, and hub bearings (and pivot bearings on a mountain bike). And I'll make sure the frame surfaces where the bearings reside are properly prepared. Good doesn't mean spending crazy money for ceramic bearings that advertise "forever" spins. But it might mean investing in Chris King stuff, Enduro MaxHit products, or Ceramic Speed SLT bearings—the money and effort on the front end for good bearings will pay off in the future.

WHEELS → Forget the latest drivetrains and "upgrades" like oversize pulley wheel systems: If you want a bike to feel and perform better, invest in a great wheelset (wrapped with great tires, of course).

I've found that putting a light and stiff wheelset on a lower-tier frame results in a better overall package than the reverse. And you don't need to spend \$8,700 on the Lightweight Obermayer Evo



ONE PAIR OF GREAT BIBS IS WORTH MORE THAN A HUNDRED PAIRS OF ILL-FITTING AND POORLY DESIGNED SHORTS YOU BOUGHT JUST BECAUSE THEY WERE CHEAP.

to get a snappy set of wheels. There are several sub-\$2,000 wheelsets—examples include Roval, Hunt, Bontrager, Reserve, and others—that kick ass.

And for my mountain bikes—excepting an XC race bike, where weight is a top concern—I prefer the feel of an aluminum wheelset like the Race Face Turbine or the DT Swiss XM 1700 to that of a more expensive carbon wheel.

COLD- AND WET-WEATHER GEAR → When it comes to gear for inclement weather, investing in high-quality products makes a huge difference—potentially between a great ride and a dangerous ride.

In this space, name-brand technologies like Polartec Power Shield Pro, Gore-Tex, Gore Windstopper, and eVent are usually worth paying for. For insulation, I seek out products that use Polartec Alfa and PrimaLoft.

BIB SHORTS → I don't shop for cycling shorts by price; I focus on fit and comfort. That's not to say the only shorts that fit well and are comfortable are Q36.5's \$460 Unique Pro bibs. My favorites are often a brand's mid- and lower-tier models like Q36.5's Dottore Bib, Rapha's Pro Team Training and Core bibs, Velocio's Signature Bib, and Giordana's Silverline bib. Some of these are, admittedly, still very expensive (look for sales), but one pair of great bibs is worth more than a hundred pairs of ill-fitting and poorly designed shorts you bought just because they were cheap.

HELMETS → Try on as many different options as possible and pay for the one that feels best. You're not going to regret paying an extra \$100 for a lighter, better-ventilated, and better-fitting helmet.

And, like bib shorts, it is often the mid-priced stuff that impresses me the most. So, while a \$300

Specialized S-Works Prevail is a superb helmet, so is the brand's \$160 Search. But if I tried on both and the Prevail felt better, I wouldn't hesitate to buy it. Put your comfort first, not your wallet.



THE EQUIPMENT I SAVE MONEY ON

DRIVETRAINS → Unless all you care about is weight or flexing, there is no reason to buy a top-of-the-line drivetrain. The key technologies that influence performance are usually the same in a third-tier group as they are in a top-tier group. Skip the Shimano Dura-Ace Di2 or SRAM Red AXS and get the Shimano 105 Di2 or Ultegra Di2, or SRAM's Rival AXS or Force AXS.

While it's true that drivetrain brands introduce their newest features and designs in their top-of-the-line groups—hood shape, brake revisions, and micro-adjusting front derailleur in SRAM's new Red AXS, for example—these things trickle down to the lower-priced groups eventually.

HIGH-END CARBON FRAMES → While I'll always encourage people to spend as much money as they want on a custom frame from a small builder they love, I don't feel the same about mass-produced carbon frames from mainstream brands.

I have two main reasons for this. For one, carbon frames, especially race-oriented ones, tend to evolve so quickly that the latest/lightest/fastest/coolest frame can only claim to be so for a few months before it's supplanted. Second, when a company offers multiple tiers of carbon frame, the top-of-the-line is usually a lot more expensive but only fractionally lighter.

As I see it, the extra money brands charge for their premium frames is in no way justified by the extra performance they offer. And this is clearer than ever as brands like Seka and Winspace start

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to gain traction with frames that boast impressive performance but are half (or even less) the price of a top-end Madone, Tarmac, or SuperSix Evo frame.

WARM-WEATHER JERSEYS → I've ridden in \$100 (and less) jerseys and \$400 jerseys. There is little difference.

CLIPLESS PEDALS → There's no real reason to buy the top-of-the-line pedal in a brand's range. You'll get the same performance—because they use the same cleat—from a cheaper pedal from Shimano, Look, Time, Crank Brothers, or Speedplay. Plus, many brands use titanium axles on their top-of-the-line pedal, which is less stiff than a steel axle and often has a low rider weight limit.

CYCLING COMPUTER → Cycling computers have gone the way of smartphones. The tools you use every day haven't changed in decades. Still, to

convince you to buy something new and expensive, brands add fancy-sounding features that often turn out to be not as useful as promised, helpful only to small numbers of people, or needed only in uncommon circumstances.

For daily use, I need a computer that connects to GPS and a few sensors, displays the few metrics I want to see while I ride—time, elevation, and power-related stuff—and records my ride data so I can view it later.

I never use a computer's workout tools (I find workouts more practical to do indoors with Zwift, Trainer-Road, or a similar service). I hardly use the navigation tools (when I do, the most I usually need is "turn left" or "turn right"). I don't need eight billion ride or bike profiles; I don't need my computer to respond to a text for me; I don't need it to tell me I'm riding into a headwind, and so on. The only newer-school feature I want is compatibility with a radar for increased safety, which is just a sensor profile and a data field.

Most of what the \$400 to \$700 computers offer is simply not useful or needed. The GPS cycling computers with all the tools I need (and way more) for my everyday rides include the Magene C606 (\$159), Sigma Rox 11.1 Evo (\$200), Garmin Edge 130 Plus (\$200), Coros Dura (\$249), and Wahoo ELEMNT Bolt (\$280). **B**

Senior Test Editor Matt Phillips has ridden thousands of bikes and used countless pieces of equipment during his career—everything from mainstream gear to the fruits of one person, even weird stuff that didn't work (and some that did). No matter how cheap or unfathomably expensive, all of it has taught him lessons about what matters.



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LET'S ACCEPT THAT INDOOR RIDING SUCKS



I'VE ALWAYS BEEN a bit jealous of cyclists who get really into Zwift racing or those who can endure a two-plus-hour ride indoors. That's never been me. Five minutes after getting on the trainer, I'm already rethinking my plan to ride for 90 minutes and convincing myself that half of that is plenty. Another 10 minutes later, and I suddenly hate my perfectly dialed-in bike fit. A few minutes after that I'm stressing about work. The whole time I'm wishing I was doing something else—anything else.

I'm far from the only cyclist who finds the trainer monotonous, which is why the bike industry has come up with a number of overpriced trainer accessories designed to make indoor riding feel more immersive. As an example, Wahoo sells a \$250 "smart fan" that attempts to replicate a headwind and a \$700 "grade simulator" that will raise and lower your fork as you pedal through a digital world. For \$950, Saris claims their MP1 "motion simulation platform" will somehow bring "the freedom of riding outside to training indoors." I know there are *Bicycling* editors who swear by some of these accessories, but for me, such products do next to nothing to trick my brain into believing I'm anywhere but my living room. I'm still stuck inside, and I still hate it.

On paper, riding on a trainer and riding on a flat rail trail shouldn't be all that different. But bikes are designed to move, not sit on a stationary device. And my brain is, too. I'll ride for hours by myself—through bonks and nasty weather, and on boring roads—and not for a second wish I was

doing anything other than pedaling. I never think about checking the phone in my jersey pocket or worrying about what is awaiting me at work on Monday. As someone who struggles to clear my head, this is the closest I'll ever get to meditating.

What the trainer does for my mind is the polar opposite. And it's taken me too much time and money to accept that no accessory or subscription is going to change that. Sure, a motion control platform might make the trainer a bit more palatable, but it's not going to get even close to the feeling of getting out of the saddle as you crest a climb. A smart fan might simulate the feeling of speed but not the thrill of hitting 50 mph on a steep descent.

Indoor riding remains a necessary evil for maintaining some sort of fitness during a long, cold Northeast winter or those spring weeks of nonstop rain. But instead of chasing a perfect pain cave with all the fancy accessories, I've found that a super simple (and cheap) setup actually works just the same: I prop a box fan up on a chair, pair my trainer to my head unit, put on a movie, and ride. I don't have to wait for Zwift to update or mess around with pairing four things to my laptop. I can still do structured workouts with my Wahoo head unit, or I can just jump on and spin for 30 minutes to keep my legs moving. And unlike when I've ridden with a setup costing as much as a nice used bike, I feel much less guilty about my usual routine of cutting my ride short after 40 minutes. I don't enjoy it, and that's just fine.

Hopefully, the weather will be better tomorrow. **B**

Photo Director John Hamilton owns too many steel road bikes and is currently scouring eBay for another one. If you have a 58cm Cervélo Prodigy to sell, he might even give you his trainer.





IN DEFENSE OF BEING SEEN

SAFETY WAS NEVER at the forefront of my mind in my early cycling days. From rocketing down descents to not always wearing a helmet to thinking safety accessories looked silly, I was doing very little to protect myself. I didn't care. But with more road riding experience and a dash of maturity came a reality check.

My first brush with distracted driving was when I watched a friend get T-boned midway through a ride on quiet country roads. Luckily, his injuries were relatively minor, but it was a wake-up call. Not long after, a driver hit and severely injured a friend who was navigating a simple intersection. A former coworker is now paralyzed after a hit-and-run. Another friend lost his brother to a reckless driver plowing through a group ride. I could go on with these stories, and I'm afraid I'll only add to the list in the future.

More than 45,000 cyclists are injured in road crashes every year in the U.S.; close to 1,000 of them die. There are very few safeguards in place to protect cyclists, especially on the rolling back roads I love to ride the most—with little to no shoulder and plenty of blind corners. Add that to the fact that drivers are more distracted than ever, whether by phone conversations that can't wait or by buzzing newsfeeds. They choose time and again to ignore their responsibility to safely operate their vehicles, which are bigger than ever, putting cyclists at increased risk by limiting the space left for them. Drivers tend to forget that not all roadways are exclusively built for cars, and cyclists and other nonmotorized travelers have the same right to use them. Perhaps some accidents could be

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I STILL OCCASIONALLY FEEL A WAVE OF ANXIETY WHEN MY RADAR DINGS, BUT AT LEAST I'M NO LONGER CONSTANTLY CHECKING OVER MY SHOULDER AT THE SLIGHTEST SOUNDS.

ascribed to a lack of adequate driver education, but more likely it's a result of impatience and a general sense of entitlement.

Over time, the same roads I once found peace on began to bring an impending sense of doom and a decent amount of anxiety. As my stress grew, so did my desire to mitigate the risk. I began riding with a blinky light, no matter the conditions. The Bontrager Flare was unobtrusive, bright, and easy to mount on any bike without looking terribly silly. Using the light made me feel better—I did my part to up my visibility—but I was still leaving too much in the hands of drivers.

More close calls followed, and a sickening number of people I know kept getting hit by drivers. My anxiety was back to square one. I found myself checking over my shoulder multiple times per mile and reacting to the slightest sounds of potentially approaching vehicles. Getting into the state of calming flow I so much appreciate about road rides was a struggle.

Just as my anxiety started reaching new heights, I got my first taste of radar-enabled lights, thanks to testing new products for *Bicycling*. For those unfamiliar, the rearview radar system communicates with most cycling head units and prompts a visual and/or audio alert when it detects a vehicle approaching from behind. It then automatically turns on the blinky light or changes it from steady to flashing.

I went for a ride with Test Editor Dan Chabanov to evaluate a Garmin Varia and a Trek Carback side by side. Both radar lights did their job, and we spent much of the ride happily pedaling two abreast on relatively busy roads, sharing conversations

and fluidly shifting to single-file as the radar alerted us to approaching vehicles. That's not to say there still weren't some jumpy moments—at one point the radar pinged a driver approaching at high speed, causing us to tense up and shift as far to the edge of the road as possible, but at least we knew the car was coming.

These days—especially if I'm already stressed—I choose a short drive to the local trails to ride my mountain bike, but there are still plenty of times I want to enjoy a nice, long road ride, and that's when I'm happy this tech exists. The radar allows me to take the lane more confidently and remain visible while providing ample time to move to the shoulder as traffic approaches. I still occasionally feel a wave of anxiety when my radar dings, but at least I'm no longer constantly checking over my shoulder at the slightest sounds.

I'm thankful the bike industry works on innovations to help riders feel safer on the road, though I wish drivers, cities, and the auto industry took our safety more seriously. This isn't a place I expected to be—embracing hi-vis and flashing lights—but it seems that for now, it's on us, the riders, to do as much as we can to keep ourselves safe while we wait for the rest of the world to catch up. **B**

Senior Photographer Trevor Raab has been logging miles on the road for most of his adult life. More recently those miles have come with a dose of anxiety, but thanks to advancements in technology, he's been able to reclaim some of the calm that initially drew him in.

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OUT: RACE BIKES IN: ALL-ROAD BIKES

THERE IS THIS important and often overlooked category that fills the space between dedicated road and gravel bikes, most often called all-road or endurance. But other names for this group pop up or are proposed by brands' marketing teams every few years. European brands used the term "Gran Fondo bikes" for a bit; when Specialized launched its first Roubaix models in 2004 (arguably the first production endurance bike), my colleague Matt Phillips recalls someone at *Bicycling* termed it "plush road." The basic premise of the category has always been to essentially take a road bike, add a bit of tire clearance for better compliance, give it

lower gearing to better suit the average rider, and tweak the geometry to make it somewhat more upright and comfortable. It was meant for people who wanted to ride but not specifically race.

What has prevented the all-road bike from being widely adopted is, to some extent, the bike itself. Brands sacrificed low weight and lively handling in their quest for versatility and stability, then burdened these models with unnecessary gizmos (like the Roubaix with the Future Shock or the Cannondale Synapse with the integrated lighting system). The result was often a pleasant and fine bike, but one that was dull and uninspiring.

The way brands position their road bikes has not helped this notion. Read between the lines of industry marketing and you'll get a sense that while buying a racing bike can put you on the same frame as some of the biggest stars in cycling, buying an all-road or endurance bike is some sort of admission of cycling inadequacy. That often leads riders to perceive the endurance or all-road bike as the inferior option.

The fact is that most people who buy road-racing bikes do not actually race on the road. Out of roughly 51 million people who cycle in the U.S., approximately 100,000 hold a USA Cycling license—that's about 0.2 percent. The typical rider is more likely to do a century ride, a Gran Fondo, or a local group ride than enter a criterium.

This isn't to suggest that there is anything wrong with wanting to go as fast as possible and finding aerodynamics and outright speed to be the most important aspects of a bike. Many models currently on the market accentuate these features. But the truth is that for the vast major-

THE TRUTH IS THAT FOR THE VAST MAJORITY OF RIDERS, A MODERN ALL-ROAD BIKE WILL BE MORE COMFORTABLE AND BETTER FITTING.

ity of riders, a modern all-road bike will be more comfortable and better fitting.

The good news: Brands have begun to catch up to the notion that just because someone needs a bike with a more forgiving fit and relaxed handling, it doesn't mean they want to compromise on how lightweight, responsive, or engaging it is to ride.

Bikes like the Enve Fray, the BMC Roadmachine, Cervélo Caledonia, Giant Defy, FiftyOne Sika, and Basso SV are all recent releases made in the new mold of what an all-road bike should be. Not only do they look similar to their road-racing counterparts—with similar frame weight, aerodynamic features, and options for similarly high-end parts—they all have geometry and fit better suited for the average cyclist while incorporating useful features like generous tire clearance, sleekly integrated lights, and in-frame storage.

This generation of bikes is doing its darndest to shake the connotations and marketing of old endurance bikes while still offering the versatility that better aligns with the needs of more riders. However, I'd be naive to think that if brands continue to pump their marketing budgets into selling road-racing bikes they pay professional cyclists to ride, many recreational riders won't continue to choose bikes that are suboptimal for their needs.

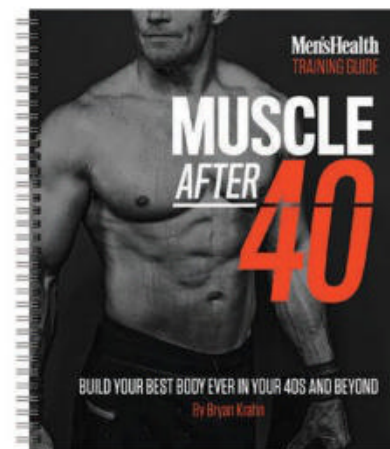
My sincere hope is that the latest crop of all-road models will finally overcome its past stigma and allow riders to enjoy bikes that are not only light, aerodynamic, and exhilarating to ride, but also designed with everyday riders in mind. **B**

Test Editor Dan Chabanov started cycling as a New York City bike messenger but soon became involved in racing and riding all kinds of bikes.

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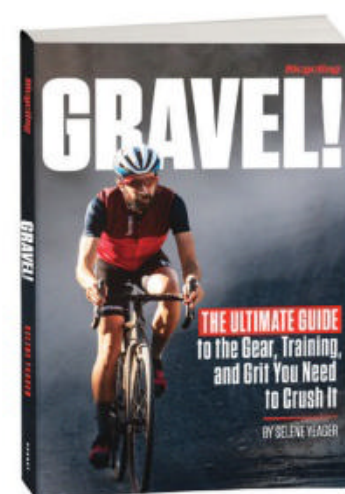
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1099

A female cyclist in a blue jersey and black shorts is riding a road bike on a paved path. She is wearing a white helmet and has a blue scarf. The background is a dark, wooded area with large, white-outlined numbers '1099' superimposed over it. The numbers are arranged in two rows: '10' on the left, '99' in the middle, and '99' on the right. The cyclist is positioned in the lower right foreground, riding towards the left.

There are hundreds of ways things can go wrong during a century ride. Our editors divulge 7 hard-earned lessons that will help you ace the iconic distance.

By Bicycling Staff and Contributors

Photography by Trevor Raab

1

Make Sure Your Bike and Equipment Are Ready

Tara Seplavy | Deputy Editor

►► A few years ago, I snapped a derailleur cable inside my shifter at around mile 40 of a local century. Luckily, the ride was two 50-mile loops, so I pulled off halfway. But it was basic maintenance I should have checked before I even lined up for the event. Get familiar with your bike before heading out on the road. Fifty miles into a century ride is a bad time to discover that your brake pads are completely worn down or that you don't like your saddle.

A good rule of thumb is to get your bike serviced before each riding season—give your local shop time to perform the required service and order any needed parts. If you've had your bike serviced recently, you can do a basic check yourself. Here's how.

INFLATE YOUR TIRES → Check your tires before every ride—or every week at a minimum. Ideal pressure varies according to the terrain, your weight, and tire width. Every tire lists the manufacturer's maximum pressure on its sidewall; do not inflate beyond this limit.

INSPECT YOUR BRAKES → Standing next to your bike, lift one wheel off the ground at a time, give it a spin with your hand, and engage your brakes to make sure they're doing their job. If the brake levers go all the way to the bar, it's a good idea to get them checked out before your next ride.

DO A BOLT CHECK → Make sure the stem bolts (at the steerer tube and faceplate) and seatpost binder bolts are not loose—or overtightened. Your pedals and chainring bolts should be snug.

Stand facing your bike with the front wheel secured between your legs, place your hands on either side of your handlebar, and try twisting it and pushing down on the bar. If it's not secure, use the correct size wrench to tighten the faceplate bolts.

Check that your wheels are securely tightened. If your bike uses quick-release skewers, pull on the lever to open it, then make sure the wheel is centered in the frame or fork. When it's centered, push it closed again. If you feel resistance





when the lever is about halfway closed and it's a little challenging to close it fully, you're in good shape. If it's loose, slightly tighten the nut and try again. Never ride with a quick-release in the open position. If your bike's wheels attach with thru-axles, you may need an Allen wrench to check if they're tight.

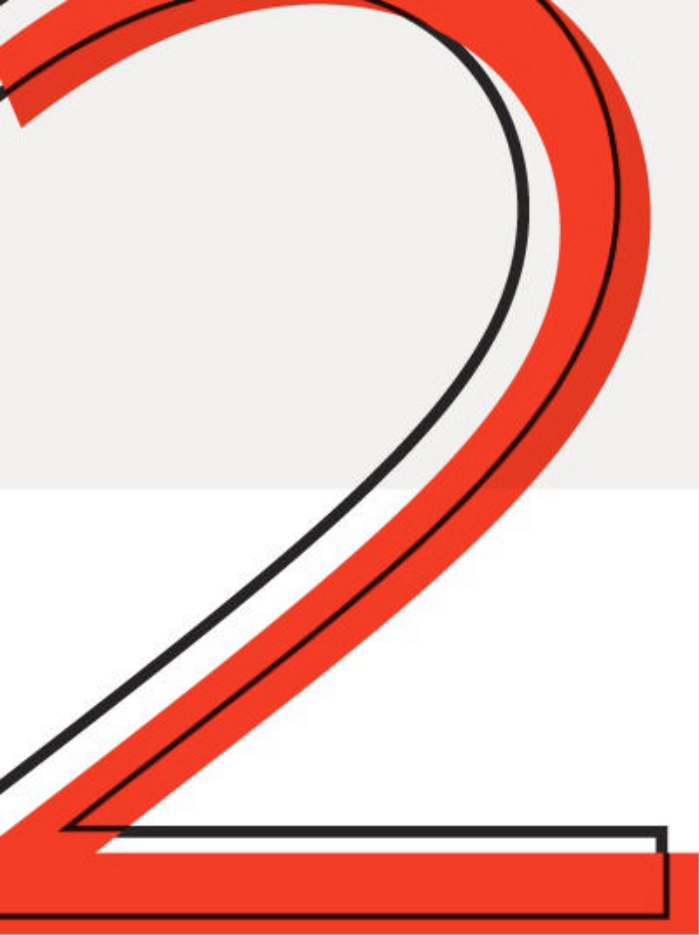
Also, make sure your saddle is securely in place. Give it a shove in

every direction (up, down, and side to side) to ensure it isn't going anywhere. If it's loose, reposition it, and use an Allen wrench to tighten it.

PACK A FLAT-TIRE KIT → At the minimum, your kit should have bike levers, a patch kit, and something to inflate a tire—CO₂ cartridges (carry at least one backup) and an inflator head or a mini pump. We recommend carrying at least one spare tube (be

sure it's the correct size and valve style for your wheels).

CHARGE YOUR BATTERIES → Whether it's derailleurs, lights, GPS, or your phone, charge all your equipment the night before a big ride. When possible, download and install the route file on your device as well—do not rely on the event venue or start location to have WiFi or a strong cell signal.—*Pam Moore & Tara Seplavy*

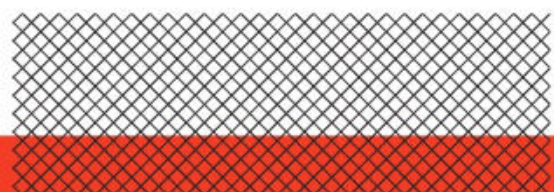


Examine the Route in Advance

Adam Schram | Contributor

►► For my first self-guided century, I constructed a frankenroute out of my favorite short loops in the area, incorporating the long mountain climbs to the north of my house, the short but steep kickers to the east and west, and the rolling valley to the south. Two problems emerged: First, I miscalculated how busy the roads connecting these shorter routes would be, and I ended up on the highway at multiple points. Second, I spent way too much energy during the first 25 miles in the mountains; despite the lack of elevation gain in the second half of my ride, I was completely drained. My advice? Check your full route.

If you're planning to build your own route, use these pointers to craft a ride experience you'll enjoy.



STUDY RECORDED ROUTE SEGMENTS FROM PAST EVENTS →

Looking where other cyclists have previously ridden generally leads to finding segments that are worthy of adding to a 100-mile route. The most-cycled segments are popular for a myriad of reasons, whether that's efficient access, stunning views, or bathrooms sprinkled throughout. Look to cycling apps such as Garmin Con-



nect, Ride with GPS, Strava, Trailforks, and MTB Project.

CONSIDER ELEVATION GAIN → Avoid mapping out a ride that's too robust. Looking at recorded rides in apps can help you target a realistic total elevation gain. When possible, aim to tackle big ascents at the time of day when portions of exposed road or trail are in the shade and the ambient temperatures are lower, versus

during the hottest part of the day or when those sections hit sun.

ESTIMATE TOTAL TIME → A number of apps can help you research how much time particular segments will take to ride and then add it all up for an overall time estimate. For example, MTB Project has a "Check-Ins" sidebar where cyclists often share how long a ride took. Trailforks features an average ride time for each route.

Using Strava's Segment Explore tool, you can see a chronological list of the durations different riders needed to complete specific sections.

MAP OUT PIT STOPS → A remote self-supported 100-mile ride requires a different plan and mindset compared with an organized event. Plan to roll past a bike shop or coffee shop when you know you'll want to enjoy a snack or little pick-me-up.—*Morgan Tilton*



**CONQUERING
THE DISTANCE
IS SOMETHING
THAT IS WORTH
STRIVING FOR.
AND IT'S THE
CHALLENGE
THAT KEEPS
RIDERS
COMING BACK.**

—ALISON TETRICK





3 Don't Go Out Too Fast

Leah Flickinger | Executive Features Director

►► When you line up for a century, it's easy to confuse adrenaline with fitness and suddenly believe you can hang for 100-odd miles with that hard-charging pack hammering away from you. And maybe you can. You'll conserve energy with a group, right? It'll be great. I did this during my first century and cracked somewhere between miles 40 and 70 (the memory is foggy). Then, after an extended stop to fix a flat, I rode alone for miles before limping into the finish. Don't make the same mistake I did. But also...it's really, really hard not to. These tips can help you avoid this common pitfall.

OUTLINE A PACING STRATEGY → Start at a comfortable, conversational pace and hold it steady. You don't have to keep up with a group at a pace that's making you gasp for air. Base your pace/projected finish time on your prior longest ride, and give yourself extra buffer time to account for stops, headwinds, flats, and fatigue.

BE INTENTIONAL → You might have to soft-pedal until the pack thins and you find a rhythm. Ignore the excitable throng around you, most of whom will regret their choices later. Eventually you'll find pockets of cyclists who ride smart like you, and you'll be happier at the finish.

STAY CHILL AT THE START → Those early miles will feel great, so focus on keeping your power and/or heart rate firmly in a comfortable zone 1 or 2, especially as you warm up for the first 30 to 60 minutes. (Don't have a monitor? Use the talk test—keep checking that you can comfortably speak in full sentences.)

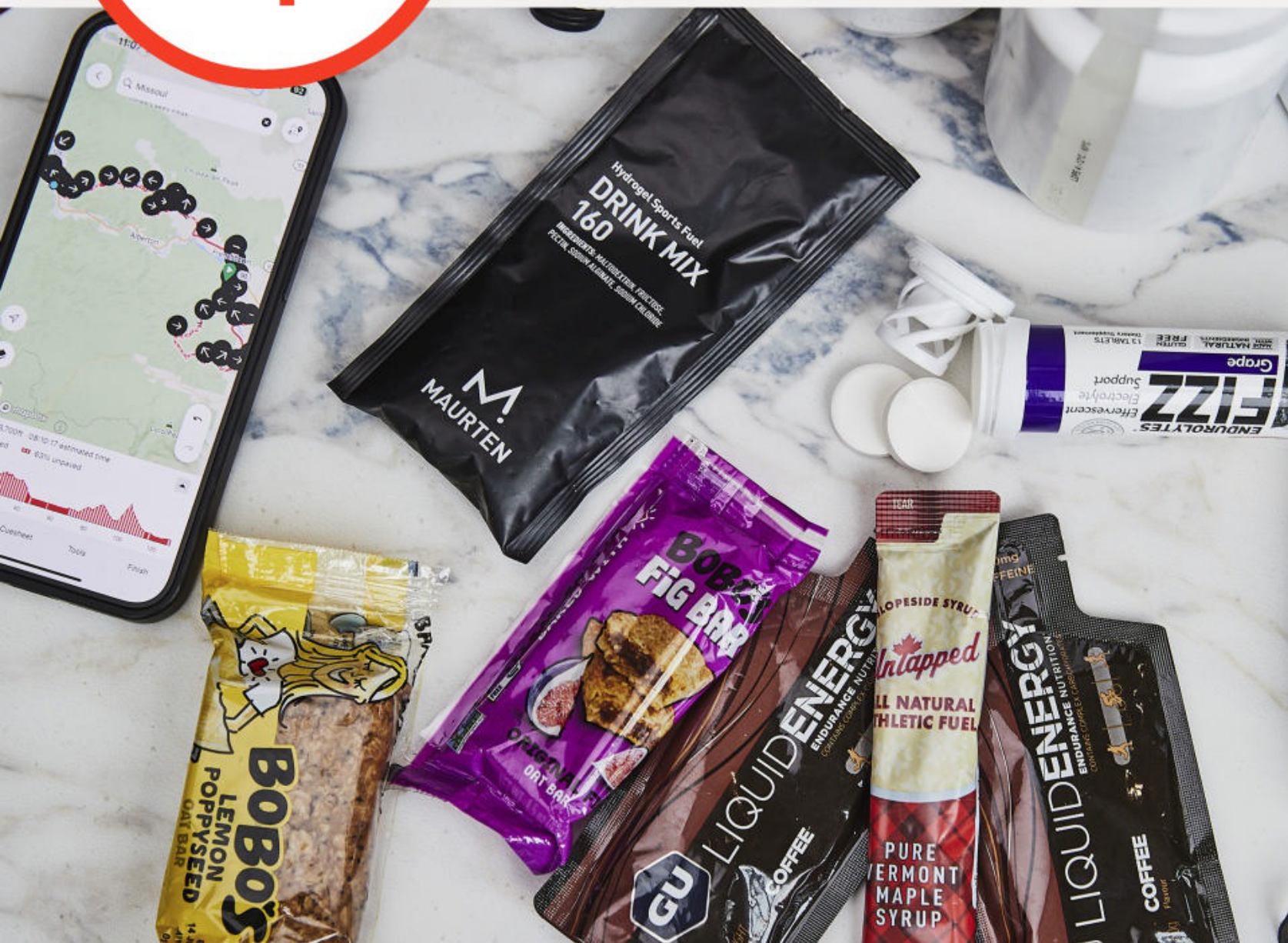
MINIMIZE STOPS → A seven-hour ride quickly turns into a nine-hour excursion if you stop almost hourly. Efficiency is key: Fill bottles, grab a snack, use the porta-potty, and go.

PREPARE FOR MENTAL HIGHS AND LOWS → Tools to get you through the emotional rollercoaster of a century ride might include recognizing how your body and brain are feeling, making sure you're fueling adequately so low blood sugar isn't to blame, and having some positive self-talk prepared. Even a go-to pump-up playlist, just in case, can be helpful to get through those low points in the middle. Write out a couple of reminders or power phrases—like your version of “You got this!”—on a piece of masking tape and stick it to your top tube.—*Molly Hurford*

4

Take More Fuel Than You May Need

Dan Chabanov | Test Editor



►► I remember it very well: The worst bonk I've ever experienced was February 27, 2014. I was on a ride with people much faster than me. We did this big loop out of Palo Alto, California, on some of the most beautiful roads in the world, over the ridge that separates the town from the Pacific Ocean. On the way back, everyone was still feeling pretty good, so we decided to add one more climb and race it up. I made it about halfway through the eight-mile climb before cracking so hard I had to get off my bike and sit down. I tried to flag down cars to see if they had any food. Eventually, some college kids gave me a bag of stale pretzels, which was enough to get me home. Since then, I've always packed more food than needed and have been diligent about actually eating it! With a ride of this length, you're burning a lot of energy and a fair amount of carbohydrates, so a nutrition plan is essential. Check out the basics.

BEFORE YOUR RIDE → To start the ride with as much glycogen (stored energy) in your muscles as possible, shift your diet to include a higher percentage of carbs for 24 to 48 hours before your ride. For instance, cook up a stir fry with chicken and vegetables for dinner that you can put on a bed of rice as the base.

The morning of the century, eat a breakfast that fills you up without leaving you stuffed. Oatmeal is the perfect pre-century meal because it's easy to digest, yet it gives even, lasting energy. Add some nuts or nut butter and/or a little yogurt for a bit of protein and fat. Wash it down with coffee (if you like caffeine in the morning).

WHILE YOU'RE IN THE SADDLE → You only have 350 to 500 grams (max) when your glycogen stores are fully stocked. That's about 1,700 calories' worth, which you'll run through in about three to four hours (or less) of moderate riding. Every hour, aim to take in 30 to 60 grams of carbohydrates (the lower end for light riders; the higher end for larger riders).

While bars and gels can do the trick, it's tastier and more nutritious to fuel your century ride with real food like peanut butter and jelly sandwiches, bananas, fig bars, Peanut M&M's, trail mix, and other food you like. An energy bar or other baked good will provide the 30 to 60 grams of easily digested carbohydrates. PB&J with some potato chips is a good lunch. A mini Coke, a chocolate treat, or caffeinated sports

chews can help perk you up.

High-carbohydrate drink mixes can also help. That constant drip of calories from the bottle goes a long way to prevent riders from going too deep into a caloric deficit that can be a potential ride-ender.

AFTER YOU FINISH → Celebrate with a high-carb, moderate-protein meal

within 30 minutes of stopping to restock your glycogen stores while your muscles are at their hungriest. Focus on a 3:1 carb-to-protein ratio for maximum glycogen stocking. Good examples include a turkey sub, grilled chicken pasta salad, or a hummus and grilled-veggie wrap. —Selene Yeager & Dan Chabanov







5

Pack Layers and a Change of Clothes

Matt Phillips | Senior Test Editor

►► Mother Nature has taught me this lesson countless times and will teach me many more times: Bring a rain jacket.

On a ride in Vail, Colorado, I set out to ride Two Elk Trail from town. Vail proper sits at over 8,000 feet; the Two Elk ride peaks at around 11,000. This was summer in the Colorado Rockies. Just after I started the descent, the sky turned black, and it got cold as the afternoon monsoon rolled in. Two Elk descends about seven miles through open meadows in the back bowls of Vail before finishing near the town of Minturn. My best hope was to keep pedaling to stay warm, but even though it was downhill, the trail became muddy and my progress slowed. Once I reached town, I stumbled into a small café to warm up. I vowed never to ride without a rain jacket again. (Until, a few years later, I learned this lesson all over again in the midst of a Gran Fondo in the Italian Dolomites.) Don't be dumb like me. The weather can be unpredictable, so take extra layers to put on or change into. And always bring a rain jacket.

Unless you ride long only on perfectly sunny summer days when there's no threat of "weather" in the sky, you'll need to layer. If you're planning on an A-to-B century, it may also be nice to change into a regular, clean set of clothes at the end.

HERE'S WHAT SUCH LAYERING COULD

LOOK LIKE → A good **base layer** is a must. A high-tech fabric like a polypropylene-polyester blend will wick moisture away from your body. The problem is, many of these garments can trap odor and get pretty rank. You can go the natural route and choose a base layer crafted from merino wool, which is soft on the skin, won't stink, and can keep your core warm on even the chilliest days. Whatever you do, do not wear cotton. It soaks up moisture without wicking, so you just have a heavy, cold shirt against your skin. Your base layer can be long- or short-sleeved depending on how chilly you expect it to be. Generally, once it hits the low 40s, sleeves are a good idea.

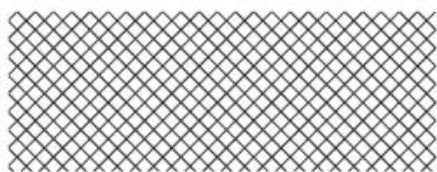
The role of a **midlayer** is to work with your base layer to wick away sweat and insulate your torso to provide warmth. For milder conditions, a jersey and arm warmers will work just fine over a short-sleeved base layer. When the mercury drops below 45°F, consider a long-sleeved jersey. Your midlayer shouldn't be too tight: While cycling clothes are naturally snug, for layering to work, there needs to be some space to trap air and retain warmth.

Finally, choose a wind-resistant, weatherproof **outer shell**. In milder weather, a vest is all you need. As it gets colder, go with a thin, waterproof, windproof jacket. On cold-temperature starts, you can wear it out of the gate, then roll it up and stash it in your jersey pocket when the day warms up. If you expect the temperature to drop, pack it with you in case you want it later.—Selene Yeager



Find a Group to Ride With

Colin McSherry | Senior Art Director



►► A few years back, I was part of an epic round trip from Huntingdon Valley, Pennsylvania, to Longport, New Jersey, with my friends Bob and Todd. We started out around 6 a.m. and cut down through Philadelphia, over the bridge, and then diagonally across New Jersey. We each took pulls, chatted, laughed, and grabbed food at the destination before turning around to ride back. Halfway through the return trip, like a switch, the trouble started. All the food I brought wasn't appetizing, and my drink mixes started turning my stomach. As the miles crept by, my power and enthusiasm started to wane. I stopped taking pulls and was just staring at my friends' rear wheels. Luckily, Bob and Todd still felt good and let me sit in their draft the rest of the way home. I refer to these rides as "type 2 fun"—not great while you're in it, but you look back afterward and think of all the funny little moments, the jokes, the sights, the pain, the suffering, the journey. All of it is 100 percent worth it when shared with good friends.

Here are just a few reasons why it's good to share the miles.

YOU'LL WORK LESS → Letting the rider in front of you block the wind creates an air pocket that virtually sucks you along. One study found that a cyclist can reduce their aerodynamic drag up to 27 percent by drafting one other cyclist. This can save you enough energy to get you through tough spots of the ride.

YOU'LL BE SAFER → Riding in a group can help you feel personally more secure, have support in case of unforeseen mishaps, and be more

visible on the road. From sharing flat-tire kits and snacks to being able to rely on the help of others, it may be just the peace of mind that helps you get through the miles.

YOU'LL HAVE MORAL SUPPORT → Your mental state during 100 miles is as important as your physical shape. Having someone to cheer you on—just as you encourage them—can make the distance easier to conquer.—*Molly Hurford & Pavlína Černá*







7

Have a Bailout Plan

Trevor Raab | Senior Photographer

►► My first century was one loop around a massive lake with a friend. It was certainly beautiful, but big lakes don't often have simple crossings; once you get to the other side, the only way home is to keep going. Ultimately, the sun set on us, and there may or may not have been a stop at a gas station to warm up and charge the

single headlight we had. We made it, but it was more of an adventure than we bargained for. For any century, but especially if it's your first one, err on the side of caution. A lot can happen in 100 miles, and a few simple shortcut options can be the difference between a nice day out or hitching a ride home with your tail between your legs.



HOW TO MASTER THE CENTURY

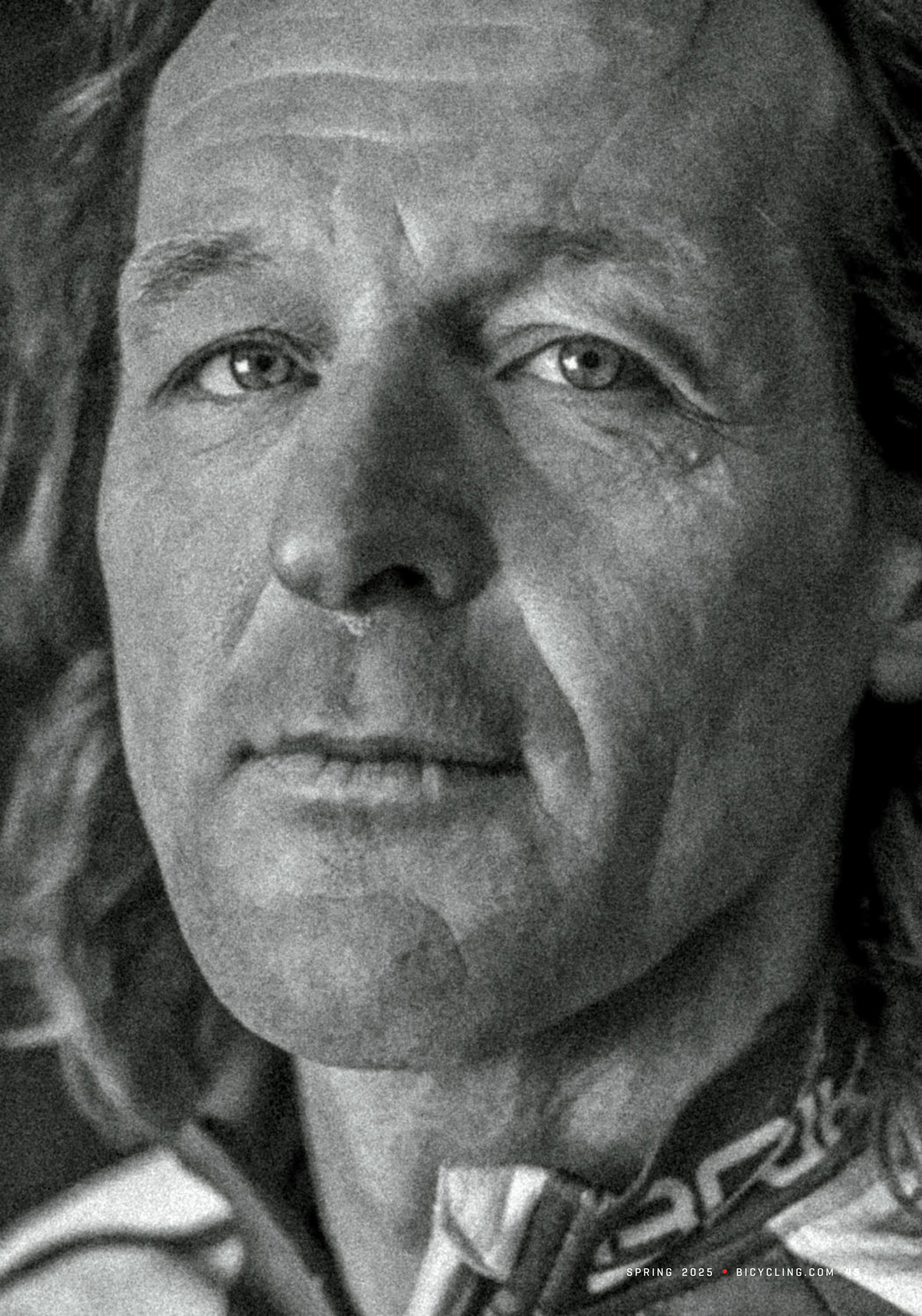
To help you complete your first—or next—100 miles, we partnered with pro cyclist **Alison Tetrick** to create the *Bicycling How to Master the Century* program. Whether you're a new rider or have cranked out hundos for years, you'll find smart tips and expert advice in this comprehensive guide offered exclusively to *Bicycling* members.

CHOOSE A TRAINING PLAN

The *How to Master the Century* program offers exclusive access to 10 unique century training plans designed by professional cycling coaches to help you crush your first event or finally break a time-based goal. These plans span four to 20 weeks, depending on your fitness level and comfort on the bike, and cover everything from base-building to improving speed to training for specific events like a Gran Fondo. Before you start, ask yourself: How much time do I have? What's my fitness level? When is my century? Then choose the plan that fits your needs.

<i>Bicycling</i>						
12 WEEK CENTURY RIDE TRAINING PLAN						
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
WEEK 1	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins @ 85-95 rpm 2x5 mins @ 7-8 RPE (first 3 mins @ 10-65 rpm; final 2 mins @ 85+ rpm) on gradual uphill 4-5 mins of easy recovery between each 5-min set Cooldown remainder @ 90 rpm	1 hr Zones 1-2 warmup 10-15 mins @ 85-95 rpm 2x12 mins @ 7-8 RPE, 105-110 rpm on flat road 5-10 mins of easy recovery between each 12-min interval Cooldown remainder	1 hr Zones 1-2 warmup 10-15 mins @ 85-95 rpm 2x10 mins (30s @ 9 RPE, 75+ rpm; 30s easy) on uphill 5-10 mins of easy recovery between each 10-min set Cooldown remainder	45 min Active recovery During 2nd half: 6 min of single-leg pedaling (3x30s @ 70 rpm each leg, 1 min both legs @ 90 rpm) Cooldown remainder	Optional Rest day or unstructured 1 hr ride
WEEK 2	Rest day	1 hr Zones 1-2 warmup 10-15 mins 2x12 mins (alternate 1-min intervals: 40s @ 9 RPE, 75+ rpm w/ 20s easy; 30s @ 9 RPE, 75+ rpm w/ 30s easy) on a consistent hill 6-8 mins of easy recovery between each 12-min set Cooldown remainder	1-1.5 hrs Zone 1 easy spinning 10-15 mins 2x1 min standing @ 9 RPE, 75+ rpm, 1 min seated @ 6 RPE, 100rpm Cooldown remainder	45 min Active recovery During 2nd half: 6 min of single-leg pedaling (3x30s @ 70 rpm each leg, 1 min both legs @ 90 rpm)	Optional Rest day or recovery ride, 30-45 mins	2-3 hrs Warm up 10-15 mins in zones 1-2 Steady zone 2, 90 mins-2.5 hrs Final hour: 10x20s @ 9 RPE (hill); 40s easy Cooldown remainder
WEEK 3	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 4	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 5	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 6	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 7	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 8	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 9	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 10	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 11	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set
WEEK 12	Rest day	1-1.5 hrs Zones 1-2 warmup 10-15 mins 21-min VO ₂ max ascending ladder: 15s @ max effort, 2-45 easy spin (increase max effort by 5s each round while decreasing recovery by 5s) Cooldown remainder	1 hr Zones 1-2 @ 85-95 rpm with 10 min cadence progression (7 RPE): 2 min @ 90 rpm, 2 min @ 95 rpm, 2 min @ 100 rpm, 2 min @ 110 rpm	1 hr Zones 1-2 @ 85-95 rpm	30 min Recovery ride	2 hrs Zones 1-2 @ 85-95 rpm 10-15 mins 3x10 mins (30s @ 7-8 RPE, 75+ rpm; 30s easy as possible) 5-10 mins of easy recovery between each 10-min set

ANARCHIST
LOSER
MAGGOT
HOARDER
CLOWN
UTOPIAN
SCAVENGER
NONCONFORMIST
LEGEND
SAINT



• BY DAVID HOWARD

IGOR KENK HAS BEEN CALLED MANY THINGS. BUT IS THIS FORMER COP THE WORLD'S MOST PROLIFIC BIKE THIEF?





IGOR WASN'T THERE.

Igor Kenk had called just seconds ago.

I stood outside the door of my room in a brightly colored hostel in Ljubljana, Slovenia, saying, “Hello? Igor? Hello?” into my phone. There was no reply.

Igor had recommended the hostel, which was sculpted out of the hollowed remains of a Communist-era prison. Maybe that was meant to be a winking endorsement—a lodging where you can lock yourself up for the night using the still-intact bars—from a man who did jail time. But I detected not a trace of irony.

“Hello?”

I called back. There was a ring, then a click, as if someone answered, then more silence.

I headed for the lobby, and while I was thinking over my next move, I turned a corner and nearly collided with Igor leaning against a wall. He nodded, as if this was precisely what he’d expected to happen. At 6-foot-1, he was a striking presence: the thin, shoulder-length brown hair, the swollen hands of a prizefighter, the cinematic blue eyes centered in his craggy face. At 54, Kenk was both

hulking and springy, even catlike in his movements. He was wearing black spandex cycling tights and a green jacket bearing the brand of Italian sportswear company Briko.

I held up my phone with an inquisitive look, and he explained: Mobile calls cost 11 cents a minute. By calling but hanging up before we connected, he could announce his arrival but save the 11 cents.

Outside he showed me the bike he’d procured for me for the next few days. It was a lavender-painted Scott hybrid, probably 15 years old, flat handlebar, with a raven’s nest of antiquated cable locks smothering the rear rack. Bungeed to the top tube was a battered blue umbrella, ribs poking out the bottom. Mary Poppins channeling Tim Burton.

Later, he explained its provenance. He’d purchased it in anticipation of my visit—knowing I’d need a bike to fit my 6-foot-7 frame—from a guy at the Ljubljana flea market, or, as he calls it, “church.”

“He wanted 50 euros,” Kenk said, in his cheerful, melodious accent. “I said, ‘Okay, buddy, I want [it for] 30, and tomorrow, a piece of ID and your signature claiming that the bike is cleaner than whistle.’ Which, I didn’t add, we both know you probably stole it fucking half an hour ago.”

They settled on 40. I wanted to ask more about the deal, but that would have to wait. Kenk was already climbing on his own beater bike and tearing away.

Kenk has said he considered himself a guardian of the bikes he accumulated. He once told a journalist, “I represent what the bicycle would want if the bicycle had a choice.”

IGOR IS A THIEF.

Of course, right? Back in 2008, *The Guardian* labeled him the “world’s most prolific” bike thief. On the sunny morning of July 16, officers were conducting surveillance in Toronto’s Queen Street West neighborhood, according to police Sgt. Robert Tajti. Cops say they saw a man use bolt cutters to extract a bike from its lock, then deliver it to Kenk in front of his shop, the Bicycle Clinic. They watched Kenk pay him in cash; then the man walked to another locked bike and repeated the process. Police swooped in and arrested both men. Two days later, acting on an informant’s tip, police obtained warrants to search multiple rental properties owned by Kenk around the city. Officers recovered well over 2,200 bikes and countless parts; in the rented apartment he shared with his girlfriend in the city’s Yorkville neighborhood, they allegedly found about three thousand Canadian dollars in cash.

Kenk was charged with theft, attempted theft, possession of stolen property, and possession of burglar tools. (He was never convicted.) Word of his otherworldly bicycle stash spread around the globe, and Toronto’s bike community howled in outrage. When the police put the seized bikes on display in hopes victims would reclaim them, some walked through teary-eyed. “I’ve never seen anything like it in 30 years,” Ruth White, superintendent of the police division that made the arrest, told the *New York Times*.

It may have been emotional, but it shouldn’t have been a surprise. Everyone knew Kenk took in stolen bikes. “I myself, amongst many other officers out on the street, had told people who had reported their bikes stolen, ‘Go down to Igor’s and see if it shows up there,’” Sgt. Tajti told me.

The trick was getting in. Kenk’s shop was so stuffed with bikes, customers had to navigate a low, narrow passageway. If you made it to the back, you’d enter a yard out of a hoarder’s acid trip: bicycles piled like teetering Seussian jumbles, even hanging in trees. Journalist Richard Poplak was the author of *KENK*, a book described as a graphic “portrait” by its publisher, Alex Jansen. For the project, Poplak relied in part on many hours of film footage captured by Jansen and two

others. “The shop,” said Poplak, “was like a piece of performance art.”

It’s been a decade and a half since his arrest, but Kenk has remained a kind of cult figure—a source of lingering animus and dark fascination, and profound curiosity about his motives and mindset. Kenk himself suggested he was preparing for an economic apocalypse. Others opined that he was a hoarder dealing with mental health issues.

I was just as bewildered. I was an editor at *Bicycling* magazine when Kenk was arrested, and I instantly wanted to know more. I spent a couple of years sniffing around the story, and then I bought a ticket to Slovenia in 2011. The scenes and interviews you’re reading about here all took place then. I went hoping to make sense of Kenk’s rise and fall, to find out whether I could explain all that took place.

But when I returned home, I struggled with the story. Kenk was a cipher, someone who was far more layered and complex than I’d imagined. After writing several drafts but never quite nailing it, I landed another job. The story was pushed onto a back shelf, and although I intended to return to it as soon as possible, I never did.

More than a decade passed, and although I still hadn’t finished the story, I never stopped thinking about it, either. I would remember him sometimes—and this will make sense later—when I spent more money on something than I felt was wise or left a light on or kept my car running longer than necessary.

Then, last May, I came across a Reddit post titled “Igor Kenk back in town?” The author wrote that a coworker claimed to have spotted Kenk in a Toronto bike shop, using a pseudonym. Fifteen years have passed since he’d been pinched, but here he is. Commenters immediately launched into familiar opinions and theories about him.

No one, it seems, can quite figure out how to let him go.

IGOR IS A GREASY MONKEY, A SOCIAL

worker, a stray cat, an anarchist, a utopian, a communist, a capitalist, a loser, a legend, a grasshopper, an explosive nonconformist, a sidewalk clown.

These are a few of the terms Kenk used to describe himself as we pedaled around Ljubljana back in 2011. If this sounds like a seething bundle

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**IT'S BEEN A DECADE
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of contradictions, well, sure—this was something he acknowledged but didn't linger over. He didn't feel the need to explain.

We rode past cafés and fountains and scenes of quaint old-Europe charm that—having survived the drab Soviet makeover—made the city a sleeper tourist destination.

We talked a little as we rode, but it was hard to settle into conversation. Kenk buzzed aggressively over the city's sprawling network of bike paths, riding helmetless and fast, knees splaying out jauntily from the too-small frame of his faded green Peugeot. We wound up at Ljubljana Castle, a hulking edifice overlooking the city. As we locked the bikes together and walked toward its parapets, Igor described his middle-class upbringing. His father worked a mid-level government agriculture job in Tito's socialist regime in what was then the republic of Yugoslavia. (Slovenia declared its independence in 1991.) “My father had very high intelligence, but emotional quotient wasn't so good,” he said.

Emotional quotient (EQ) is a measurement of a person's ability to monitor their feelings, cope with pressures and demands, and control their thoughts

and actions. Kenk believes EQ is a far more useful indicator of success than the more commonly acknowledged IQ. He says his father surrendered to his fate, like a Tolstoy character, to a dull life far below his intellectual abilities: “Basically, age 30, he was finished. There was nothing left. Poor guy. So I ask mother, ‘What are you gonna do?’ ‘Well, I would leave him, but these thousand losers who are all chasing me down are even bigger losers than him.’ So they kept stumbling over this horrendous fate.”

Meanwhile, Kenk showed unusual proclivities. Math, for example. Starting when he was 5, his grandfather brought him around to pubs, where the old man challenged patrons to wagers: Could they solve complicated, SAT-type math problems faster than the little kid? Boris has 30 eggs, and he gives half of them to his two friends, who each give five of theirs to three others... “Of course,” Igor said, “those drunks were lost 20 times over. And I just go, ‘Oh yeah, the answer would be 28. Easy.’”

Under Tito's brand of socialism, Kenk's family

believed the best chance for a good education was at the police academy; Igor was accepted at age 15. He graduated, excelling in judo, but only worked briefly as a cop before becoming disillusioned and getting fired, he said, for refusing to go along with brutal tactics and rejecting communist doctrine.

"I said, 'I'm not fucking material to be member of communist party,'" Kenk recalled. "'I'm ashamed being piece of this organization here because you're all fucking hyenas.'"

He eventually found himself adrift in Yugoslavia's wallowing socialist economy. Because of soaring inflation, goods were priced at three times what they cost in neighboring countries.

Kenk decided to drive into Germany and Austria to buy stuff and try to sneak it back over the border. "I took as much as I felt was gonna pass," he recalled. The guards would stop him and demand a bribe, "so then we had little vegetable-market situation. He would say, 'I want 100 [Deutsche] mark.' I'd say, 'Sir, I didn't bring 100 mark.' 'Well then, fuck you.' They turned me around three times."

Kenk eventually snuck in \$2,000 to \$3,000 worth of stuff every week—stereo equipment, chocolate, bananas—which he sold at Ljubljana's flea market, a place he still spoke of with ecclesiastical zeal. Earning a 30 percent profit, he raked in the same income he'd made as a cop. Capitalism and communism were colliding head-on, and he was happy to comb through the wreckage. "I was verifiably a legend here," Igor said. "I loved it. It was great. I knew this was self-destructive, but hey, if you wanna destruct society, be my guest."

Eventually he became interested in bikes. His first good one was a Miele with decent Shimano components for which he paid \$800, and in what is either an ironic twist or a key moment in his origin story—or maybe both—someone later stole it. "Then I decided, I'm not gonna get myself nervous," he said. "Whenever they steal my bike, I'm gonna just throw a Frankenstein together." He soon acquired a German race bike—a Rixe, on which he installed Shimano's high-end Dura-Ace components—and a new city. In the late 1980s, he moved to Toronto with his first wife, an Air Canada flight attendant. They split up in 1991, but he stayed.

After riding and walking and talking for most of the day, Kenk and I were ravenous. I suggested something prototypically Slovenian. He shook his head and led me into a shopping mall, to a buffet-type cafeteria where we loaded plates of pasta, cutlets of meat, and overflowing bowls of soup and salad onto trays. When I looked around for something to drink, Kenk beckoned me out of the restaurant and onto an escalator. We wound up in the men's room. "We're going to tomcat this," he said, and ran tap water into his massive hands, from which he began slurping. I stared at him, and he straightened, water dripping off his chin. "It's the same water," he said, a little defensively.

For reasons that will be clear later, Kenk left Toronto a wealthy man, but he acted as if he were destitute, and he elaborated on this behavior by sharing expansive macroeconomic theories and advice about the importance of saving and the foolishness of wanton spending. He seemed determined to bail out the ocean of capitalism with a valve stem cap, but he lived stridently by this code. "Every dollar you're dropping now, for the next 30, 40 years would be compounding interest—so each of these dollars is hundreds of dollars," he said. "But because people are imbeciles, they cannot understand."

Too many people spend more than they have, which is why, he insisted, we are on the verge of a global economic collapse. Those who travel by bikes will be better positioned when the world morphs into North Korea, he said, gulping his soup. For one thing, they don't rely on a vanishing supply of fossil fuels. When he finished eating, he picked up his plate and licked it.

Rain was falling when we left. Kenk unfurled the umbrella he'd stashed on the Scott, then remembered there were two of us. Our choice was a dry hour-long walk or a wet 10-minute ride, and it was an easy decision. He racked the umbrella, and we pedaled off.

Igor Kenk photographed in Ljubljana in 2011. His shop in Toronto was described by one journalist as a "piece of performance art."



“ VISITORS TO KENK’S SHOP WEREN’T ALLOWED INSIDE UNLESS THEY WERE REGULARS, OR HE INVITED THEM IN.”

IGOR IS A MAGGOT, A HOARDER, A HUMAN colostomy bag. These are a few of the ways Toronto residents described him, in online bulletin boards and elsewhere, after his 2008 arrest. Someone tagged his old building with the words “Center for poor karma & pain research.” Wil Mills, who worked at Toronto’s Cycle Solutions, recalled the theft of his Wheeler aluminum mountain bike. “I remember seeing my bike lock in pieces and just thinking, *Igor*,” he told me. Visitors to Kenk’s shop weren’t allowed inside unless they were regulars or he invited them in. But by peeking over the single boarded-up window, Mills saw his bike near the doorway. “I started hitting my broken U-lock on the window, saying, ‘Give me my fucking bike back!’” he recalled.

A 15-minute shouting match ensued, during which Mills learned that Kenk believed he legitimately owned the Wheeler. “He thought if he had possession of the bike, it was now his,” Mills said.

After arriving in Toronto, Kenk delivered mail for

Canada’s postal system and took on other odd jobs before he started fixing bikes in 1991. “I decided, well, this has got potential for survival, and potential for fun, so why not, right?” he said. “So I just rented one room and everybody found me there.” He ran his first shop, the Bicycle Clinic, on Queen Street West, from 1992 to ’96, then he moved a few blocks away on the same street to the building that became the seat of his notorious empire, in what was then a blighted neighborhood. The place was called Igor’s Bicycle Clinic Co-op. Word spread.

Kenk asserted that his stock was comprised of bikes he purchased at yard sales and assembled from parts scavenged from the garbage at established shops. He came to believe that bicycles are the greatest invention in human history and carry nothing less than the potential to change the world.

By law, as a dealer of secondhand goods, Kenk was required to do several things. First, when he bought a bike from someone, he was supposed to record the person’s name, address, and driver’s license information in a logbook. He was then required to hold on to the bike for three weeks and display it for the public, so a potential victim could reclaim the property.

Kenk kept the log, but Sgt. Tajti and others said

he did not always comply with the second part. Without physical access to the store, the odds of spotting a stolen bike—much less being successfully reunited with it—depended on many things, including Kenk's mood and the comportment of his visitors. "How enforced do you think that rule was?" said Eric Kamphof, then the CEO and general manager of a shop called Curbside Cycle, who says he, too, was turned away from Kenk's door after a handful of bikes were stolen during test rides.

Several of Kamphof's customers managed to get their bikes back from the clinic, he said. "You usually had to [say something] like, 'Oh, I'm looking for a bike.' And then you get in there and see yours and you'd be like, 'Oh, that's my bike.' They'd make their case and sometimes he'd be amenable, and other times he'd be a jerk."

One cyclist, Ryan O'Brien, said a friend found his stolen bike in Kenk's shop, and they went in for it. O'Brien is a big man, and he was not intimidated. "We went in and we got into a conversation with him," he said. "It was one of those, 'That's mine, I'm fucking taking it.' A short while afterwards, you start to realize, How the fuck am I going to get that? How am I physically going to get to that thing? I'm going to basically have to solve this guy's hoarding problem before I can get my bike back."

Kenk acknowledged that he was fickle. "First five seconds when people open their mouth, you see what state of disrespect they're operating with," he said. "I'm thinking, Well, this is lost game. This guy is disrespectful to himself, so therefore even if he wanted to, he cannot respect some greasy monkey such as myself."

As for the shop's chaotic state? "It's a little bit of a protest, my shop," Kenk said. "When they ask me, 'Why do you have all this shit?' I say, 'I don't have nothing. It's not mine, it's your shit. The world is throwing stuff around, so I'm protesting. You can't enter into shop because I disagree with producing things that people get and don't need.'"

Richard Poplak, the journalist, had heard this before. "There's nothing he does that he can't intellectualize in a very sneaky and manipulative way," he said. For example, Kenk's claim that he held onto bikes for three weeks, when in fact almost no one would have any way of knowing they were in his shop. "It was a letter-of-the-law versus spirit-of-the-law thing," Poplak said.

Then there was the way Kenk changed parts on bikes—putting a new saddle or different wheels

on a new find. He said he did it so that if people came in claiming a stolen bike, he could test their knowledge: What do you notice that's different here? If they couldn't pass his test, he refused to return it. "Igor treated bikes like a Lego system," Sgt. Tajti said. "It was easy to bolt these wheels onto that frame using that handlebar and that seat and create a de facto new bike." This made it hard for bike owners to identify whether a bike was theirs.

What seemed to really rankle people was that Kenk did all this brazenly, even theatrically. His otherness mystified people, made him into a kind of flesh-and-blood urban legend. Several cyclists I met there had picked up apocryphal details of Kenk's backstory: One described him as a bike racer from Czechoslovakia who was married to a musician. Few knew him, but everyone knew of him.

Here's the hard part to square: Kenk's shop was popular. He had loyal patrons, and the Bicycle Clinic never lacked for foot traffic. He believed the upkeep of a bike for most casual riders was needlessly expensive, so he offered free maintenance classes. He also created his own bikeshare program: For \$20, customers could take one of his bicycles for a year, free upkeep included. If they wanted to bring it back, he would refund their money. Kenk has an excellent memory, so if he saw someone bring in a regular customer's bike, he would grab it back and call them to retrieve it.

Bike owners blamed the cops for allowing Kenk to operate. Cops, in turn, blamed the bike owners, and the system. "The thing with secondhand pawn shops is they're essentially licensed purveyors of stolen property," Tajti said.

For big-city police departments dealing with homicides, sexual assaults, and other violent crime, bike theft will never be a high priority—"especially when we have an apathetic victim base," Tajti said. "We offer them free bike registration so that if we recover [bikes] we can source them back."

But most bike owners didn't bother and simply considered theft a part of life. "It was the cost of doing business in Toronto," Tajti said. "You buy a

bike, you keep it for a year, somebody steals it, you get another bike. It was just the thing to do. Or, you get your bike stolen, you go to a place like Igor's because you can't afford to get a new bike, so you buy somebody else's stolen bike. So now they're being victimized, but they're being complicit with the victimization of their neighbor."

The question was whether there was any way to create a different result—and whether Kenk's shop might have played a role in that. Reading *KENK*, Poplak's graphic novel, Kamphof was struck that the circles on the Venn diagram of their worlds may have at least slightly overlapped. "What I loved about reading the book was that he loves the bicycle," he said. "So I have a lot in common with that guy. I believe the bicycle is going to change North American cities, and he believed that, too."

IGOR IS AN ENVIRONMENTALIST.

Not in the way many people I know are, including me—people who stridently declare they want to reduce their impact on the planet, but fall short of taking the big steps to back it up. We recycle diligently, but we keep flying, keep thoughtlessly going about our high-consumption routines. Not long after he served his sentence in Toronto, Kenk moved back to Slovenia, where he seemed to have resettled into a new life. During my visit, he carried around a plastic bag that he stuffed with trash he picked up everywhere we went. His new girlfriend, Sveta, a shy graphic designer in her 50s who spoke little English, confirmed with a roll of her eyes that he wasn't just showing off for me; he did this habitually.

Once, we stopped at a pharmacy pick-up window; Kenk engaged in a vigorous dialogue with someone waiting in his car. When I asked about the altercation, Kenk said he had berated the man for leaving his car engine idling. No one likes the idea of carbon needlessly drifting up into the atmosphere, but who does that?

On the third day of our visit, Kenk grudgingly agreed to drive, because he and Sveta wanted to take me to Bled, a scenic mountain resort town that rings a lake where one of Sveta's old friends is the mayor. On the drive, Kenk explained that he considered himself a kind of social worker, and asserted that if he could only get people into his system—taking care of their bodies and the planet, correcting their profligate ways—he could truly



Thousands of bikes from Kenk's shop in the Toronto Police garage in July 2008. The first good bike Kenk owned was a Miele with Shimano components that he bought for \$800. It eventually got stolen.

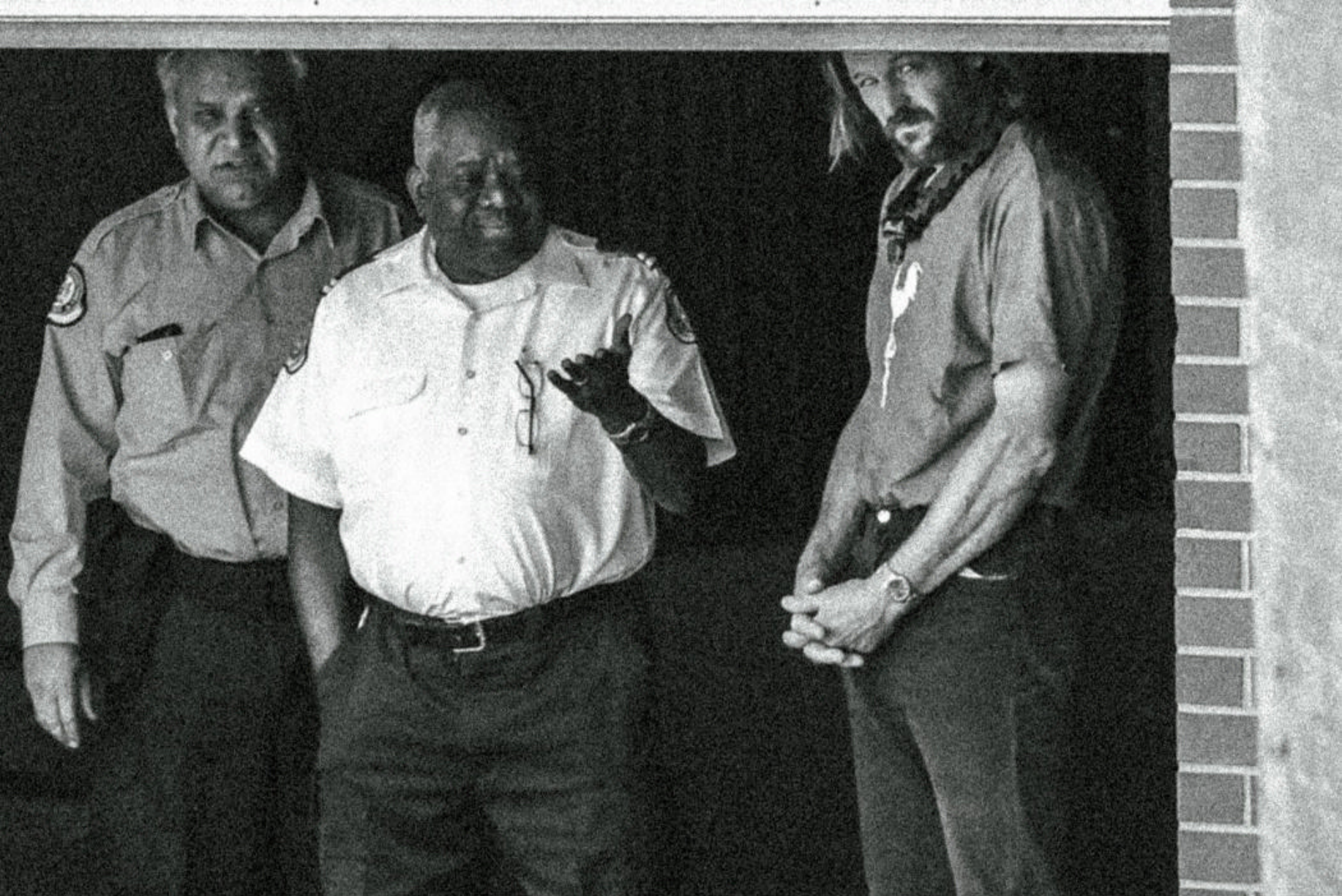
Toronto Star via Getty Images



help them, and, by extension, make a difference in society. During our explorations of Ljubljana, he confided, he'd been taking note of my physical prowess, or lack thereof. He felt that I rode bicycles too much at the expense of other forms of fitness, like tai chi and hiking on steep mountains like the one we'd climbed the previous day.

We met Bled's mayor, Janez Fajfar, at a pricey restaurant—his and Sveta's choice. Igor derided the place for being snooty. "You would not be able to drag me here with thickest chains," he said, teasing Sveta, who grinned. Perpetually the bombast, Igor sometimes spoke of women crudely.

But he and Sveta held hands as we hiked the paths around Lake Bled. At the top of a gentle rise, we watched two people struggling to mount a nearby staircase while hefting bikes on their shoulders. One of them biffed as she reached the top step, her bike clattering across cobbles. Before I could react, Kenk was running toward them. By the time I caught up, he had helped the fallen rider back to her feet. He lifted her bike, gave it a quick look over, and handed it to her. She smiled and thanked him, then remounted and rode off.



GOR IS A BIKE SAINT.

That's how filmmaker Anthony Corindia phrased it. Kenk "coddled bikes," he said.

Corindia was an aficionado who had built up bikes as a kid. As an adult yearning to reconnect with his childhood hobby, he walked into Kenk's shop in the 1990s and announced he was looking for a 1972 or '73 Peugeot. Kenk waved him down to the basement, a riotous mess illuminated by a single bare lightbulb. "I'm thinking, *Maybe this isn't a good idea*," Corindia said. "But he goes right to it—a '72 with a royal-blue chrome frame. Totally original." Kenk told him to come back for parts when he was ready to start building.

Corindia returned five years later with a camera, shooting a self-funded documentary about bike theft in Toronto. "I said, 'You don't remember me, but...' And he says, 'Yeah I do—Peugeot '72.' That blew my mind."

Corindia and I sat in a hotel bar in Kenk's old Toronto neighborhood. He wore black-framed glasses; his dark hair was combed straight back. He spoke enthusiastically about Kenk, who gave him full access to the shop, allowing him to shoot about 70 hours of footage. "At any given time," he

said, "there were five to 10 people around, from street urchins to drug dealers and addicts to legitimate people looking for bikes. It would be like this circus: He would be out on the sidewalk with a wad of money in his mouth, yelling into the phone, then he would pull the phone away and shout at someone, 'No, no, that [bike] is piece of shit, man!' I don't think I've ever met anybody as magnetic."

Heroin and crack use was a pervasive and overwhelming problem in the city, and bikes flowed in daily from addicts seeking quick money. People brought fake IDs, made up stories. Kenk was an enabler, but no one saw him actually commit theft, Corindia asserted. "It boils my ass to no end, all of these fucking idiots out there saying he's a bike thief," he said. "Why the fuck would he steal the bikes? They came to him."

Corindia characterized Kenk's shop in purely pragmatic terms. "It was a service," he said.

Kenk and his defenders pointed out that he, in fact, collaborated with police at times while

running the shop. At one point in the 1990s, the force assigned officers John Margetson and Vince Langdon to bike theft, and Kenk tipped them off when pricey new bikes came into his shop, after which the cops spoke to their connections in the bike community. A number of times, Kenk said, they successfully reunited people with their bikes. Corindia, who interviewed Langdon and Margetson on camera, backed up Kenk's version of events.

Kenk said he never actually viewed the bikes as being for sale, *per se*. "Things are being held until I find some kind of situation that's reasonable, that I allow somebody the usage of this bike," he said. "Meanwhile, I am perceiving myself as a guardian." He once told Poplak, for a piece in *Toronto Life* magazine: "I represent what the bicycle would want if the bicycle had a choice."

The circumstances of Kenk's 2008 arrest are worth pondering. On July 13, Brett Clarkson published a lengthy bike-theft story in the *Toronto Sun* that characterized the problem as an epidemic. The story included typically provocative quotes from Kenk—"I'm a thief, I'm the darkest nightmare in the western hemisphere"—which was sarcasm, but his comments nonetheless encouraged Torontonians to metabolize his actions as malicious. But the piece also noted that, according to Richard Mucha, the city's manager of licensing, Kenk was "operating legally and doing everything by the book."

Sgt. Tajti said police had a bike-theft sting underway at the time, involving bicycles left on the street as bait. He invited Clarkson along to observe on July 16—three days after the *Sun* article hit. That was the day Kenk was arrested.

"Sometimes," Tajti said, "you catch lightning in a bottle."

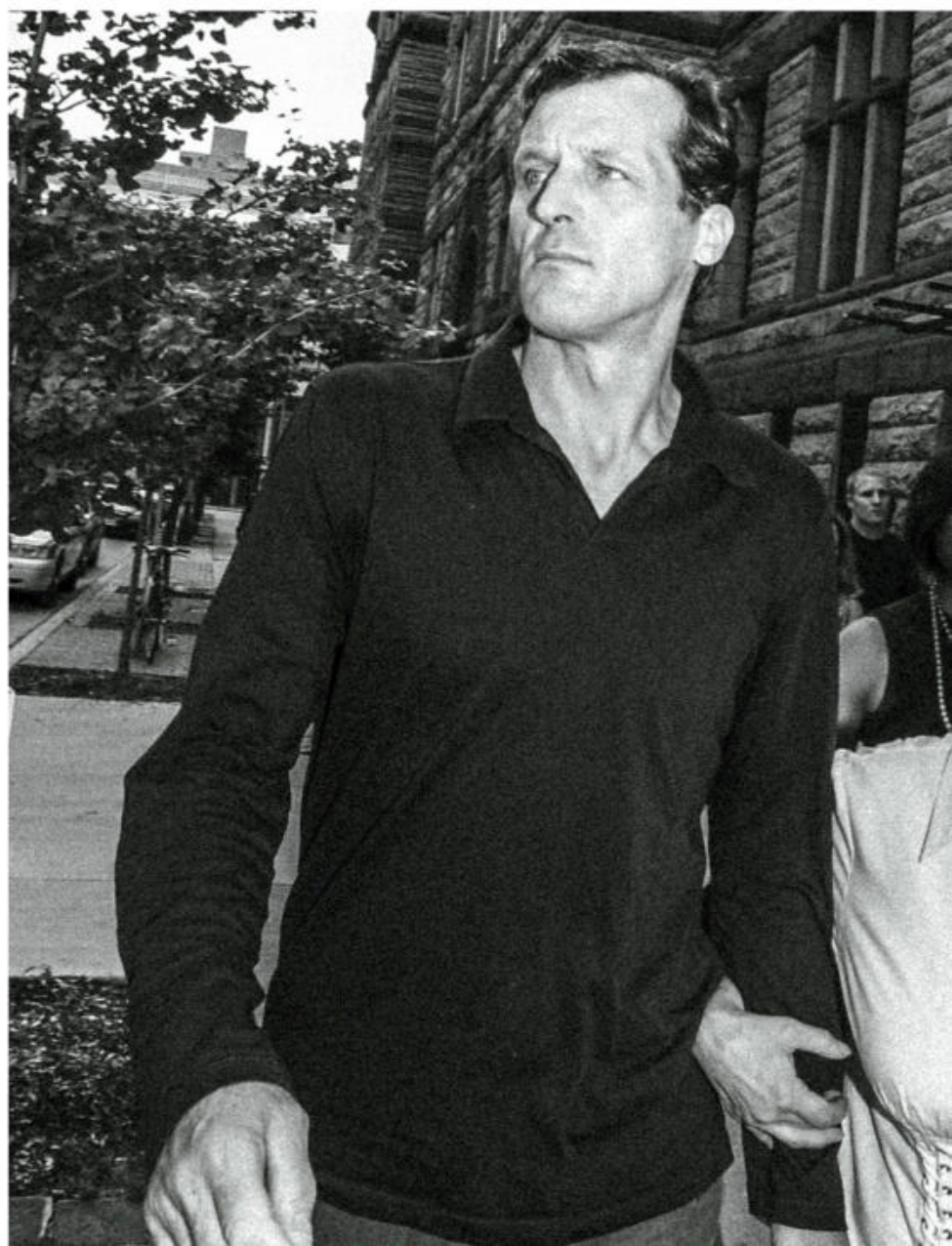
IGOR IS A SCAVENGER.

As we rode around Ljubljana, he mentioned several times having 10 or so bikes in Slovenia, but he didn't elaborate or let me see them. Surrounding himself with bikes seemed a habit Kenk was unable or unwilling to break. Most likely, they moved through his life along with various other gray-market items.

On the morning of my last day in Slovenia, we rode to a shabby hostel with a common area that reeked of stale beer and armpits. We climbed a dark set of stairs to find the person he'd come to see—a man with gray bedhead, a three-day beard, and jeans that sagged off his backside. Kenk wouldn't tell me his name. He offered the man a 50-euro note with some flourish, and they talked for a while in Slovenian. The guy disappeared and returned with a couple of jackets and an enormous plastic bag with a large hole that Igor patched with some tape, then stuffed full.

When I asked, Kenk said he was just doing some business.

Back on the bikes, we rode toward "the ghetto," an area he'd mentioned several times in previous



Kenk outside Toronto's York County Courthouse on August 6, 2008. Opposite: Kenk leaves the city's Don Jail (now decommissioned) after posting bail on August 2, 2008.

days. He braked suddenly next to a set of four large plastic dumpster-like containers, looked around for a moment, then walked back 20 feet and knelt. “Ah, you have to look from this angle!” he laughed. He walked over by a tree trunk and picked up what he’d somehow spotted as the city whirled past: two beer bottles that turned out to be open but still full.

After we puzzled over the circumstances of this find, he carefully wrapped the open bottles in a spare plastic bag. He was already carrying the bag with the jackets, and when he subsequently stopped to pick up an empty bottle, he combined everything into one bag. It was five or so miles to the ghetto, which turned out to be a quiet, tidy suburban neighborhood where we stopped at a house. Kenk explained that his friends, a couple, paid \$300,000 for it, and invited him and a mutual friend to split the basement into their own rooms so they could help pay the mortgage. We sat down with the couple, who appeared to be in their 60s, and someone pulled out a bottle of walnut schnapps and filled four glasses. It was 11 a.m. They plunged into a conversation, in both Slovenian and English, about the inevitable impending economic meltdown. A bottle of honey schnapps appeared not long after that, followed by bottles of beer. Things grew hazy, and the conversation eventually withered. Kenk roused himself and led me on a tour, after which he offered a box of walnuts he’d picked up on the street. We headed outside, where a whispery rain fell.

I swayed back and forth in the driveway. The world looked warm and soft, as through a movie-camera lens smeary from raindrops. Kenk wanted to do tai chi; he’d introduced his version of it to me two days earlier on a hike. He had us face each other in a crouch. The goal was to try to make the other person move his feet while holding your own position. He’d invited me to be the aggressor, to reach out and try to push him. As in judo, he’d used my energy to try to destabilize me, grabbing at me as I reached out.

This had been engaging the previous day, when it was sunny and we were sober; now, not so much. I wobbled away, trying to defog my head. Kenk didn’t accept this; he followed, talking louder and faster, growing agitated. The world is a cruel place that can punch you in the face with no warning, he was telling me. You’d better be prepared.

Standing behind me now, he bellowed that someone had a gun to my head, and I would survive only by fighting back. When I ignored him, he circled

around and popped me square in the chest with his open hands—half punch, half shove. Instinctively I lunged, shoving at him a little wildly. He grabbed my arm. I was wearing a light puffy shell, and he ripped the sleeve’s lining. As he mumbled an apology I lunged again, catching him off guard, and he shifted his back foot to compensate. “Come on, come on,” he said.

We finally stopped, breathing heavily and blinking in the steady spring rain. My mind had tunneled to some other place, and it struck me that this wasn’t just for fun. Kenk was indoctrinating me into his self-improvement program—preparing me for the challenges of what he believed lay ahead, molding me into something sturdier, more self-reliant, less dependent on the bubble-wrapped safety of consumer society. I was both angry and sharply focused. It seemed possible in that moment that I understood Kenk better than I ever had before.

IGOR IS RICH.

After his arrest but before his case was adjudicated, he was released on bond.

As prosecutors prepared their case, Kenk initially refused any plea bargain. “I insist you prove it to me,” he said, summarizing his strategy. “They cannot prove a thing.” He capitulated in December 2009 when they threatened to prosecute his girlfriend, potentially derailing her music career. He entered a guilty plea and ultimately served less than two years in jail. Under the Civil Forfeiture Act, the city seized his two trucks and his possessions. The bikes, after a few hundred were claimed, were all junkers—worth about \$10 each, by one estimate. But his building had grown exponentially in value in a gentrifying neighborhood and sold for \$640,000 (CAD). When the government was finally done with him, it handed him about half a million Canadian dollars.

For a while, Toronto’s bike community seemed to enter a period of reckoning; Tajti said police noticed that more people were registering their bikes. But some fundamental aspects of life stayed the same. Between 2014 and 2022, between 3,000 and 4,000 bikes were reported stolen each year, according to Toronto police data. Secondhand bike shops remain plentiful.

Kenk was bored with life in Ljubljana—forced out of the orbit of his own purpose. He was so frugal he could live off the interest from his windfall. He fantasized about working with bikes again. He had

seen many bikes in the landfill in Switzerland, where he spent time with Sveta, a dual citizen. Those bikes would do some good in Slovenia, where the standard of living is lower. He pondered finding a sponsor to pay for the bikes' restoration, then bringing them to Ljubljana to distribute among people who could use them. Maybe set up a bikeshare.

He asked me what I thought. I didn't hold back: I told him it was an intriguing idea, but it was hard to imagine any venture capitalist signing on to any such thing with his name attached.



HO, THEN, IS IGOR KENK?

Maybe the answer is all of the above: a greasy monkey, an anarchist, a capitalist, and so on.

If he himself didn't steal bikes, he was the mastermind behind a system that encouraged and enabled the theft of bicycles—hundreds if not thousands of them. He was also capable of abrupt, unpremeditated acts of kindness, and was the only person I've known who makes it a point to pick up trash routinely for no reward or public notice.

In Toronto, at least, Kenk was a kind of mirror. Anyone who was being real about the Bicycle Clinic—participating in his ecosystem—couldn't avert their eyes from certain realities. Enter the shop raging at the world's injustices, and that rage would be reflected back. Walk in open to the wonders of the bike and its transformative possibilities, and you found an image in your likeness there. Come there seeking a bargain, a too-good-to-be-true offer, and you found yourself face to face with the ultimate opportunist.

Plenty of people patronized Kenk's shop; the sheer force of his personality scaffolded the Bicycle Clinic. But it took a customer base to sustain it. They entered with the drug users and the grime and the open embrace of chaos, and the bikes were a bargain, but the message was clear: You don't get to pretend you don't know what's happening here.

Back in Slovenia, sitting by the window overlooking Bled Lake in the restaurant he openly disdained, Kenk maintained his bemused expression as multiple courses were whisked to our table on tiny plates, one even delivered in a delicate beaker. "They forgot to bring us magnifying glass," he said, shooting Sveta a playful sidelong glance.

While they chortled, Mayor Fajfar picked up a copy of *KENK*, the graphic novel. He read out loud a quote attributed to the *New York Times* on the back

cover: "What exactly was he planning to do with 2,865 bicycles?"

We looked at the mayor looking at the book. He gazed across at Kenk with freshly minted curiosity. "So," he said, "why did you want [all those] bikes?"

Kenk's eyebrows arched upward and his mouth twisted a little—not a frown, but more a look of weary resignation, like the frontier preacher who lashes himself to the cross for his flock, yet somehow still must address wayward heathens. He pushed his beaker away, leaned back, and said, "Why not?"



IGOR IS A MEMORY.

For me, and for Toronto. More than 10 years after meeting Igor Kenk and reporting this story, it finally occurred to me, what I learned in Slovenia: It was never about the bikes. They were merely one element of one man's peculiar and flawed but nonetheless fully lived vision for how we might save each other from ourselves.

In the time that has passed since then, I've lost track of Kenk. Recently I tried finding him through Alex Jansen, the publisher of *KENK*, who traveled to Switzerland in 2018 to put together a documentary for the 10th anniversary of Kenk's arrest. He found Kenk living with Sveta and largely disengaged from his old activities, but he spoke of someday ramping up a legitimate used-bicycle operation that could help people gain independence and save bikes from being junked.

Jansen lost track of him after the pandemic started and had no luck tracking him back down upon my request. I tried messaging Kenk on Facebook, which looked like a dead end; the last public post was more than five years old. I tried reaching him through several other social media accounts that similarly looked long abandoned—all to no avail. He seems to have vanished from public view.

But I like to picture him now, roaming the streets of some Swiss town, scooping up litter, plucking bike parts out of the trash to build a frankencycle, insisting not only on fixing neighbors' rides but on showing them how to turn a wrench themselves. And maybe he's still with us when we breeze into one of the many secondhand bike shops that still thrive in some large cities—places where we can run our hands over the frame of a sweet-looking machine that is somehow available for a bargain price.

This Igor will take a long, piercing look at us, then lean over and whisper in our ear: What'll you have? **B**

101 THINGS YOU NEED TO KNOW ABOUT SHIFTING

▶▶▶ TIPS, TRICKS, AND FACTOIDS RELATING TO BICYCLE DRIVETRAINS.

The drivetrain on your bicycle translates pedaling into forward motion. It helps us travel great distances and take a short trip across town. It enables high-speed sprints and long, arduous climbs.

The individual parts of a drivetrain—chain, cogs, hub, derailleurs, crank, and shifters—are found on everything from kids' bikes to World Cup race machines. The components can be extremely simple or highly complex, but to many of us, their care and function remain a mystery.

Whether you are a seasoned veteran or fresh to cycling, you'll find something over the next 18 pages that will change how you think about your bike and help you become a better rider.

1

The front half of a bicycle's drivetrain employs a chainring (or chainrings) mounted to the crank. The rear half consists of a cog (or cogs). The chainring (often shortened to "ring") and cog are linked by a chain that transfers power from the rider's legs turning the cranks to the rear wheel.

2

The size of a chainring or cog is denoted by its number of teeth (sometimes abbreviated to T).

3

Bicycle drivetrains are designated by "speed." Years ago, a bike with two chainrings and five cogs was called a "ten-speed." But in modern speak, speed does not refer to the total number of gear combinations provided by a bike's chainrings and cogs, but simply the number of cogs. So the current iteration of Shimano 105 is called a 12-speed drivetrain even though there are 24 possible (2 chainrings and 12 cogs) combinations.

4

Modern drivetrains are designated 1x (or one-by) or 2x (two-by). This means the number of chainrings on the

crank: 1x or one-by means one chainring, and 2x means two. 3x, or triple, cranks exist but are rare on new bikes.

a ratio, or the number of revolutions a cog makes per one full turn of a ring. If the ring and cog are the same size,

percentage, refers to the ratio difference between a drivetrain's highest and lowest gear ratios. A bigger range means more variation; a smaller one has less variation. A road bike with 50/34T chainrings and an 11-36T cassette has a 484 percent range because the lowest ratio is 0.94:1 (34T ring and 36T cog) and the highest ratio is 4.55:1 (50T ring and 11T cog)— $4.55 \div 0.94 \times 100 = 484.04\%$.

5&6

Dérailleur stems from the French word "dérailer," which means to derail. When you shift, you derail the chain from its current cog or chainring, which allows it to move to the next "rail."

If a bike features a 2x or 3x drivetrain, it has a front derailleurs and a rear derailleurs. A 1x bike has only a rear derailleurs.

7

Bicycles have two chainrings (usually listed individually in product specifications). 50/34T is an example of a bike with two rings.

8

Cassettes are usually described with the highest and lowest cogs, rather than each individual cog size—11-36T, for example.



More teeth on a chainring means a higher gear—or one that feels harder to pedal. However, more teeth on a cog means a lower gear—or one that's easier to pedal.

10

A chainring and cog combination results in

the ratio is 1:1. If the ring has twice as many teeth as the cog, the ratio is 2:1. The more times a cog turns per chainring revolution, the harder the gear becomes.

11

Range, expressed in

12

For single-chainring bikes, range is simply the size difference between the smallest and largest cogs. For example: A bike with a single chainring (no matter the size) and an 11-46T cassette has a 418 percent range— $46 \div 11 \times 100 = 418.18\%$.



13

Development is how far a bike travels, usually in meters, per one crank revolution. It takes into account both gear ratio and tire circumference. The math is a bit complicated, but as an example: Using a 50-tooth ring and 24-tooth cog on a bike with 700c wheels and 28c tires results in about 4.43 meters development. The bicycle travels more than four meters every time you turn the crank one revolution.

14 /

Because wheel diameter partially determines the distance a bike travels per crank revolution, it also interacts with the gear ratio. That's why the same gear combination—say, a 36T chainring and a 24T cog—feels easier on a Brompton with 20-inch wheels than on a Trek with 29-inch wheels.

A chain is made of links, and links are made of plates, rollers, and pins. An outer link is just the two plates that connect a series of inner links. An inner link consists of inner and outer plates with two rollers in the middle. The outer link is joined to the inner link



17

Some cassettes, usually less expensive options, are made up of loose individual cogs separated by spacers. But most modern cassettes consist of several (in some cases all) cogs permanently attached to a carrier.

by the pin, which travels through the center of the roller. If you turn the chain on its side, it looks like a deli sandwich. From the bottom: outer link, inner link, roller, inner link, outer link, with the pin serving as the toothpick to hold it all together.

16

Most bikes have a mechanism that disengages the drivetrain from the driven wheel (usually rear), allowing the rider to coast without the cranks turning.

18

Fixed-gear bikes have one speed and cannot coast—if the rear wheel is rotating, so are the cranks. Fixies are often brakeless, and riders apply back pressure on the pedals to slow down.

19

There are two main kinds of disengagement mechanisms: freewheel and freehub. The “free” indicates that the drivetrain permits the rider to coast, which is why coasting is also called “freewheeling.”

20

If the drivetrain's disengagement mechanism is part of the cog (or cogs), it is called a freewheel. Freewheels thread onto the rear hub. Freewheels were the standard for decades but were mostly replaced by freehubs. Today, most freewheels are single-cog or are used for simpler and less-expensive bikes.

21

The multispeed free-wheel has largely been made obsolete by the freehub. A freehub gets



this name because the disengagement mechanism is part of the hub itself.

22

Bikes with a freehub use a cassette. The cassette is a cluster of cogs that mounts to the freehub via a specially splined interface called a driver body. The cassette is held in place with a **locking**.

23

Over their history, derailleurs have taken many forms, but the parallelogram serves as the basis for modern derailleur design.

24

A rear derailleur's parallelogram is formed by the two links that connect the B-knuckle (the rear or upper knuckle, which also incorporates the bolt used to attach the derailleur to the frame) and the P-knuckle (the front or lower knuckle).

25

Below the parallelogram is a cage with two pulleys (sometimes called jockey wheels). The cage rotates on a spring-loaded pivot in the P-knuckle. The

chain wraps around the pulleys, and the cage spring provides tension on the chain.

26

Each pulley has a distinct job. The upper pulley is called a **guide pulley**, and the lower is the **tension pulley**.

27

The tension pulley works with the cage spring to provide constant back pressure on the chain. As the chain moves to larger rings or cogs, the tension pulley rotates forward and spools out chain; shifting to smaller rings or cogs causes the cage spring to pull the tension pulley backward and take up chain.

28

The guide pulley initiates shifts. As the derailleur moves, the guide pulley aligns itself under the selected cog, which begins the derailing process. A rear shift starts on the underside of the cassette and finishes at the top. A shift is complete when the chain is fully disengaged from the initial cog and fully engaged with the selected cog.



29

Modern chainrings and cogs feature intricate details to help the chain shift up and down. Look closely and you will see a series of ramps, cutouts, tooth profiles, and pins (rings only) designed to interact with the chain. These details aid the transition from one cog, or ring, to the next by carefully and precisely picking up or releasing the chain. These details are why modern drivetrains provide much smoother shifting, especially under load, than older systems.



30

Rear derailleurs designed for drivetrains employing a front derailleur use a slant-parallelogram design. A rear derailleur built specifically for use with one chainring and no front derailleur employs a straight parallelogram.

31

Though they still incorporate a parallelogram, front derailleurs have a much simpler design than rear derailleurs. Essentially, it is a hoop of metal (the cage) that pushes against the side of the chain to force it onto the next chainring.

32

Front derailleurs initiate the shift at the top of the chainring, and the shift finishes at the bottom of the ring.

33

A rear derailleur's motion is more intricate than a front derailleur's. As the rear derailleur body moves inboard and outboard, the guide pulley moves vertically to maintain a constant distance between it and the selected cog.

34

This distance between a cog and a guide pulley is called the B-gap.

36

Most rear derailleurs have a screw that adjusts the B-gap. A tighter B-gap usually results in faster and more precise shifting; but if it's too tight, the cogs and guide pulley will contact each other, which causes excessive wear and can foul shifting. A larger gap often makes a drivetrain quieter, but too much space makes shifting sluggish and imprecise. The goal is to find a middle ground that results in smooth and precise shifting. Derailleur makers have B-gap specifications in their setup instructions or technical manuals.

37

Shimano's first product was a freewheel, Campagnolo's was a quick release, and SRAM's was a twist shifter.

38

Larger-diameter rings and cogs have less chain tension and friction than smaller-diameter cogs, which is why they are more efficient.

39

For most of their history, derailleurs were actuated via cables. And while recent innovations are centered on electric motors, brands have also sold air- and hydraulically actuated derailleurs.

40

In the late 1990s, Shimano introduced Airlines, a 1x system designed for downhill race bikes. Sold in limited numbers, Airlines used air pressure to move the rear derailleur. Shimano said this system was inspired by the air-powered robotic arms used on its production lines. A metal tank—which the rider charged with a floor pump—was strapped to the bike and supplied pressure for the system. It had two shifter paddles: one for the right side of the bar and one for the left.



The vertical position of a front derailleur's cage is largely fixed and only moves in one dimension: in and out.

Riders could select which side shifted the derailleur inboard and outboard by changing the routing of the air hoses.

41

The first widely available electronically shifted drivetrain was Mavic's Zap, circa 1992, beating Shimano's Di2 to market by nearly 20 years. Only the rear derailleur was electronically shifted—the front was cable-actuated by a lever on

the down tube. Despite promising features and good performance, Zap never caught on.

42

Mavic's second attempt at an electronic drivetrain was 1999's wireless Mektronic, which preceded SRAM's wireless eTap by 16 years. Like Zap, Mektronic had a cable-actuated front derailleur, though this time with a huge wing nut in the left

brake hood. While Zap was reliable, Mektronic suffered from slow shifting and frequent wireless interference issues. It was forward-looking not only because it was wireless, but also because it incorporated a head unit that displayed gear information. Its hood shapes provided multiple hand positions (promptly banned by the UCI, of course) and multiple shift button locations.

43

WHILE WE LOVE ITS PRODUCTS, WE HAD A GOOD LAUGH DISCOVERING THAT SRAM TRANSLATES TO "SHIT" IN POLISH. OOPS!





Bartek Wolinski/Red Bull Content Pool

44

Aaron Gwin's race run in the 2015 World Cup at Leogang, Austria, is among the most famous downhill mountain bike wins. Gwin broke his chain immediately after leaving the start gate, completed his run chainless, and won by 0.045 seconds.

45

Cross-chaining a modern drivetrain is fine. While more angle on the chain reduces efficiency (a straighter chain is faster), don't fret or obsess. There are better and worse shifting practices, but there is no right or wrong.

46

Cadence is how many times you rotate the crank per minute. A "perfect" cadence is a myth, but most riders find that a seated cadence of 80 to 100 rpm is most comfortable. Shifting lets you maintain your preferred cadence as the terrain changes.

47

Higher cadences are typically difficult to execute smoothly when pedaling out of the saddle. Most riders find that a standing cadence of 60 to 80 rpm feels best.



48

Drivetrains with two (or more) rings have several redundant gear combinations. Using an 11-speed drivetrain with 50/34T chainrings and an 11-28T cassette as an example, the ratio overlap begins at the fourth cog—a 34x19 is the same ratio as a 50x28. So while there are 22 possible gear combinations, there are fewer notably distinct ratios.

49

Derailleur drivetrains require chain movement to shift. This is

why you must pedal to change gears. In most cases, you'll realize the best shifting with a brisk cadence (85 rpm or so) and slightly easing pressure on the pedals.

50

Less common is a drivetrain where the crank freewheels instead of the cassette. With a front freewheel drivetrain, the chain, chainrings, and cogs continue to move while the rider is coasting. This type of drivetrain allows shifting while pedaling or coasting. Front freewheel drivetrains never became as popular as rear freewheel drivetrains, but have recently seen increased interest among mountain bike riders.



51

If you want to "sweep" multiple cogs, it's best to do it at a quick cadence and with very little pressure on the pedals.

52

When changing multiple cogs under higher loads, shift one cog at a time, letting the chain fully engage a cog before shifting to the next. This prevents skipping and, potentially, damage to the drivetrain.

53

Shift gears with anticipation and preparedness. While not always possible, shift into the gear you need right before you need it. For example, when rolling to a stop, shift to the gear you'll need to accelerate from a standstill. This allows you to get up to speed more quickly and avoids low cadence and high load shifts.

54

On most drivetrains, the default orientation has the shift lever for the rear derailleur on the right side of the bike ("right equals rear" is easy to remember) and the front on the left. In some cases, this can be reversed and is especially easy with electronic drivetrains.



55

SRAM and Shimano electronic drivetrains for dropbar bikes have optional satellite shifters with flexible mounting options. These provide riders another position to shift from (typically the bar tops). They are also great for adapting bikes to riders with hand or finger limitations.

56

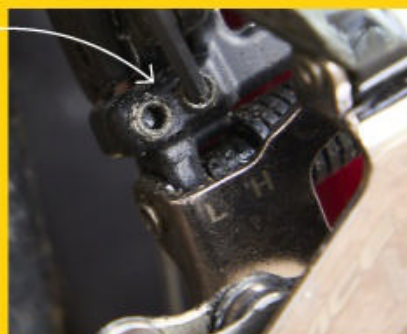
For both derailleurs, moving the chain outboard from the bike's centerline accesses harder gears, and moving the chain inboard gets you easier gears.

57

Many derailleurs have limit screws—marked High and Low or H and L—that adjust their total range of motion. To remember which screw does which: Low equals slow, high equals fly.

58

Upshift means selecting a higher (harder) ratio, while downshift means moving to a lower (easier) ratio. In front, these shifts are literally up (big ring, higher ratio, upshift) and down (small ring, lower ratio, downshift). But this reverses at the rear



derailleur—an upshift means moving down the cassette to a smaller cog and a downshift means moving the chain up the cassette to a larger cog.

59

Newer riders often find the front derailleur a source of consternation. Specifically, how do you know when it is time to shift the front? First, don't stress: You can use all (or almost

all) gearing combinations on modern drivetrains. The best practice, however, is to use the big ring as much as possible and save the small ring for use with the largest three or four cogs only.

60

There are a few reasons it's best to limit front shifts and use the big ring as much as possible. Front shifts are slower, clunkier, and more prone to hiccups than rear shifts. This is because a small-to-big ring shift is a much larger jump in teeth than a rear derailleur shift. Plus, larger-diameter rings and cogs reduce chain friction, providing more efficiency.

61

If you don't want to deal with a front derailleur, look for a bike with a 1x drivetrain. A single chainring setup is simpler to understand and use, and with a modern wider-range drivetrain, you can have most of the gear range of a 2x system. The biggest difference is that a 1x system typically has larger ratio jumps per shift than a 2x. Almost all mountain bikes use 1x drivetrains, as do many gravel, cyclocross, and time-trial bikes. Standard dropbar (or





flat bar) road bikes can also be built with a wide-range 1x system.

62

The beginning of the end for the front derailleur on mountain bikes started in 2012 when SRAM debuted its XX1 1x11 drivetrain. Today, most mountain bikes have no provision for mounting a front derailleur.

63

Sounds and vibrations can tell you a lot about the condition of your drivetrain. A properly

adjusted and lubricated drivetrain should be smooth and quiet, and shift precisely. It needs attention if it's noisy and buzzy while riding and shifting.

64

If your chain sounds squeaky or grinds, you're not only wasting energy, you're also costing yourself money. A properly lubricated, clean, and quiet drivetrain lasts longer, which means you're replacing parts less frequently.

65

Most cable-actuated



front derailleurs have “trim” positions. This feature slightly repositions the front derailleur and prevents the chain, in some gear combinations, from rasping against the front derailleur cage. These trim positions are achieved with a half press of the front shifter paddles.

66

There are two basic types of mechanical shifting: indexed and friction. Modern mechanical drivetrains use indexed shifting. Each “click” pulls or releases the cable a specific amount. This corresponds to a set amount of derailleur motion that moves the chain to the next gear. With friction shifting, the rider must move the shifter the amount needed to select the gear. Friction shifting is simple and less finicky—indexed shifting relies on perfectly aligned parts and a host of precision mechanical components in good working order.

67

A chain and derailleur drivetrain has all its parts exposed. The chain and derailleur system is light, efficient, and easy to work on. This is why it is the dominant form of multi-speed drivetrains.

68

There are also internally geared systems.

They look like a singlespeed from afar because the transmission parts are hidden from view.

Internal gears can be in rear hubs (like the familiar three-speed) and even gearboxes packaged between the crank arms. These systems may be shifted while pedaling, coasting, or stationary.

69

Internally geared systems are often more durable (fewer bendy and dangly bits), are less susceptible to foul conditions (rain, mud, snow), and require less maintenance because the gears are sealed from the elements and sit in an oil bath. But they are much heavier, and often less efficient than derailleur systems. In the case of a gearbox, fitting one requires a nonstandard frame design.

70

Internally geared hubs have evolved beyond the three speeds found on beach cruisers. There are seven-, eight-, 11-, and even 14-speed internally geared hubs.

71

A spin on the internally geared hub is a CVT (continuously variable

transmission) hub. These do not have a defined number of speeds or ratio steps. Instead, they have—between their highest and lowest ratio—infininitely variable ratios with no steps.

72

A recent twist on the internally geared drivetrain is **Classified's Powershift hub**.

Inside the hub is a two-speed, wirelessly shifted system. Combined with a traditional rear derailleur and multispeed cassette, this drivetrain provides the additional range of a two-ring drivetrain. But it replaces the front derailleur in favor of the reliable shifting of an internally geared hub.

73

A bicycle gearbox transmission is functionally similar to a car with a stick shift. Your legs spin the input side of the system (cranks), which turns a series of gears inside the transmission, which then spins the output side of the system (chainring). The ratio of the selected gear controls how much faster or slower the chainring spins than the cranks.

74

Germany's Pinion is the dominant maker of gearboxes for bicycles. It

offers six-, nine-, 12-, and 18-speed gearboxes, in cable-actuated and electronically shifted versions. Its newest product is a single unit combining an e-bike motor with a gearbox.

75

One potential advantage of a gearbox or internally geared hub is that it can be paired to a belt drive instead of a chain drive. A belt is quieter and lower-maintenance than a chain. And because a belt does not need lube, it's a cleaner system.



77

In early 1940, Campagnolo debuted its first multispeed drivetrain.

The Cambio Corsa drivetrain consisted of a frame with toothed and extended horizontal dropouts and two levers mounted high on the right chainstay. One lever was the rear wheel's quick release, the other attached to a metal loop that moved the chain between the four available cogs. To shift while riding, the rider would reach back and flip open the quick release (yes, really) then use the other lever to push the chain to the next cog while pedaling backward. Because it lacked any sort of system to take up or spool out chain length, the wheel would, with the rider on the bike, move forward (bigger cogs) or backward (smaller cogs) in the dropouts to adjust chain tension.

76 | Before 1989, most shifters were simple levers mounted to the down tube or stem (road bikes) or on top of the handlebar (mountain bikes) until Shimano Total Integration (STI) changed shifting forever. STI debuted two paddle under-bar shifters for mountain bikes (1989), and the integrated brake lever/shifter (1990, sometimes called "briflers") for road bikes. Both featured ratcheting paddles that returned to the same position after every shift. This allowed the rider to shift and brake from the same position (and simultaneously if desired) without moving their hands. Additionally, dropbar riders gained the ability to shift from both the hoods and drops. Campagnolo responded in 1992 with Ergopower, its integrated shift/brake lever.



Megan Gindl (belt drive); Matt Phillips (Powershift)

81



78

Most modern bikes mount the rear derailleur to a replaceable hanger. These hangers are designed to bend or break in an impact, sacrificing a less expensive part to save the costly mechanical component. Some of these hangers are soft and bend quite easily, causing derailleur misalignment that degrades shifting. For this reason, you want to avoid leaning the bike against its rear derailleur or laying it on the ground derailleur-side down.

To avoid bending the bike's derailleur hanger, be careful when packing a bike into a car or travel case. This is one of the most common ways hangers become bent.

80

A slightly bent derailleur may be straightened with a special tool. A hanger alignment tool (or hanger alignment gauge) is part ruler and part pry bar.

81

Replaceable derailleur hangers proliferated for decades, with every brand creating unique designs (sometimes for individual bike models). Since there are so many different hangers, it is often tough to find the

right one on short notice like for a vacation or event. That changed in 2019 when SRAM introduced the UDH (Universal Derailleur Hanger). All UDH bikes use the same hanger design, which makes them easier for shops to keep in stock, and means riders can share a spare hanger

in a pinch—no matter what bike they own.

82

UDH's standardization and cross-compatibility are awesome. However, the design was actually an effort to pre-seed the market with bikes designed to accept the hangerless direct-mount

83

Does all this talk about shifting make your head spin? Ride a singlespeed. Singlespeed bikes are light, simple, quiet, easy to maintain, and inexpensive.

84 / NOBODY CARES THAT YOU RIDE A SINGLESPEED!





85

There are two basic types of lubricant: liquid and wax. Liquid lube is usually easier and faster to apply and can be long-lasting.

But it can be messy and attract dirt. Wax lubricants are cleaner, and a properly prepared waxed chain is usually faster than a chain with liquid lubricant. But waxing a chain can be

a more time-intensive process, and many waxes don't hold up as well as a liquid in foul conditions.

86

Lubing a chain isn't about smearing oil or wax on the exposed part of the chain. It's about getting lubricant inside the rollers and between the inner and outer plate interface.

87

With time, a chain wears and needs replacement. Recommendations vary by manufacturer, and even by chain type. The accepted rule of thumb is to replace it when a chain is 0.5 to 0.75 percent longer than new.

88

Although chain wear is called "stretch," the metal isn't really

stretching. Instead, it's the pins and rollers that are wearing.

89

Keep on top of chain wear and follow replacement recommendations because the chain is the least expensive part of your drivetrain. Riding too long with a worn chain will accelerate wear on more expensive parts like cassettes and chainrings. Worn chainrings and cassettes don't shift well, might skip, and can cause situations like chain suck (when the chain gets jammed between the crank and frame), which can destroy a frame.

90

Do not use time or mileage to guide chain replacement. Different environments, lubing practices, and even your most-used gearing combinations all influence chain-wear rates.

91

Chain-wear checkers are simple go/no-go tools with two fingers that measure the distance between a handful of links. One finger is inserted between a link's inner plates. If the second finger drops between the inner link plates, the chain needs replacement. If the finger hits a roller and

can't drop, the chain is still good.

92

A simple way to check if a chain needs replacement is to grab a link at the three o'clock position on the chainring and lift it away from the ring. If you can lift the chain off the ring "a lot," it is probably time to replace the chain. But it's best to confirm with a chain-wear checker tool.

93

Another quick way to check chain wear is with a straightedge ruler. With an imperial ruler, count 24 pins: The pin

center distance from the first to the 24th pin will be 12 inches when new. If the distance is $12\frac{1}{16}$ inches or more, the chain needs replacement. With a metric ruler, count 10 pins: The pin center distance from the first to the 10th pin will be 25.4 millimeters when new. If the length is 25.6mm or more, the chain is worn and needs replacement. Because of the small measurements involved, this method is not super precise, and it's best to confirm wear with a chain-wear checker tool.

94

The traditional way of



evaluating chain wear is by measuring linear distance. Abbey Bike Tools recently introduced a \$45 device that measures lateral wear in addition to linear wear. The company states that 1x

drivetrains subject the chain to more extreme angles that accelerate lateral wear. Abbey claims that too much lateral wear affects the shifting performance of a 1x drivetrain, even if the chain still passes linear wear checks.

95

If you're switching to a new chain lube, thoroughly degrease and rinse your chain before applying the new lubricant. Many effective chain-cleaning fluids are available, but **Simple Green** is easy to find, comparatively inexpensive, and an effective degreaser.



96

Like chain lubing, a proper chain cleaning isn't about the outside of the chain, but cleaning and flushing inside the rollers. For that reason, it is best to soak a chain in degreaser for a bit. Moving the chain while it soaks also helps.

97

Chain-scrubber tools can be an effective way to clean your chain without removing it from the bike. However, remember that just because the outside of the chain looks shiny and clean does not always mean the rollers are fully clean. Take your time and ensure the degreaser fully

soaks into the chain's nooks and crannies.

98

BCD (Bolt Circle Diameter) is the mounting pattern to attach chainrings to a crank's spider. The spider is the multiarmed disc that projects from the center of the right-side crankarm. Cranks that eschew spiders and feature chainrings that

bolt directly to the drive-side crankarm are called direct-mount chainrings.

99

Like many elements of a bicycle's drivetrain, BCDs and spiders were once fairly standardized and made for easily interchangeable chainrings.

Today, spiders and BCDs are often proprietary, which means that

before you shop for new chainrings, you must know your crank's brand and model (Shimano, SRAM, and Campagnolo all have multiple BCD and spider formats).

100

Bicycles have a drive side and a non-drive side. The drive side—so named because it is the side of the frame the drivetrain is mounted to—is usually the right. However, some bikes use LSD (left-side drive). Some freestyle BMX riders grind on the right side and prefer an LSD. A few specialty track bikes use LSD because track racing is done counter-clockwise—having the drivetrain on the inside of the turns is more aerodynamically advantageous.

101

The French word "souplesse" is often used to convey the appearance of grace on the bike and refers to a supple and effortless pedal stroke. As you ride, imagine your legs and feet moving quickly—but smoothly—to turn the cranks as you keep your upper body relaxed and quiet. Shift as needed to maintain a cadence that allows you to achieve smoothness. When you achieve this, you have mastered shifting. **B**





THROUGH





GH THE

NATURAL
DISASTERS ARE
DESTROYING SOME
OF AMERICA'S MOST
ICONIC MOUNTAIN
BIKE TRAILS. HERE'S
HOW ONE COMMUNITY
IN OREGON RALLIED
TO PRESERVE
THEIR BELOVED
WONDERLAND.

BY BOYCE UPHOLT

FIRE

PHOTOGRAPHY BY WILL MATSUDA



IN

2021, TWO NIGHTS BEFORE THE ALPINE EPIC—

the premier race in Oakridge, Oregon, perhaps the preeminent mountain-biking town in the Pacific Northwest—Michelle Emmons sat at her kitchen table, preparing the final list of riders. Then her phone began to buzz. By texts and by emails, friends warned her about a brewing storm. As she looked over her shoulder, out the window, she saw black clouds snarling down Aubrey Mountain. Lightning pierced the hills.

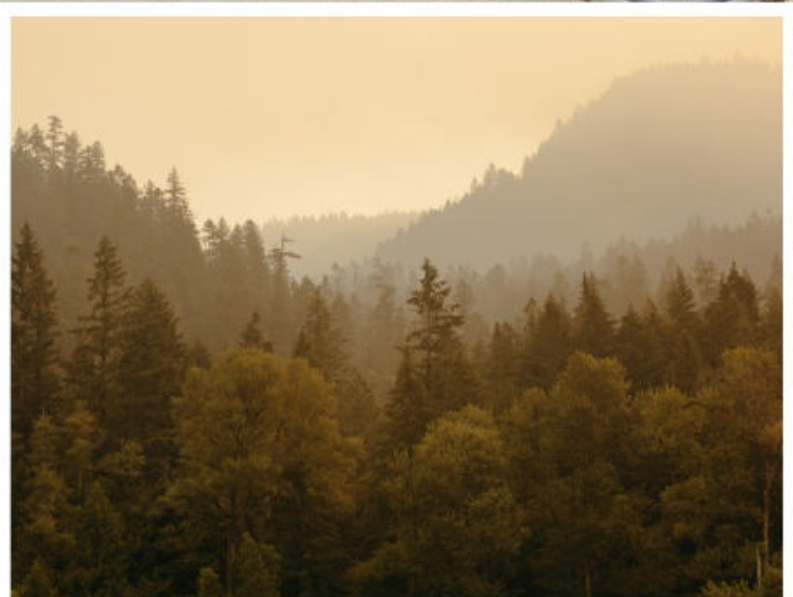
Emmons first visited Oakridge, an old logging town tucked along the western slope of the Cascade Range, in 2010 at the invitation of a man she was dating. Though it was late spring, they found themselves having to hike their bikes through sections of unmelted snow. Eventually, they reached





Previous spread:
Michelle Emmons rides through a burn zone on the Heckletooth Trail, near Oakridge, Oregon.

Emmons first rode in the forests around Oakridge in 2010 and was immediately hooked. She moved there shortly after.



Alpine Ridge, a small pinnacle some 12 miles north and 3,000 feet above town, clad in massive fir trees spangled in threads of sunbeam. But they hadn't come to bask in the forest: They launched into the long and ripping descent that has made the Alpine Trail one of the most famous rides in the Pacific Northwest—a trail that has reshaped the town of Oakridge.

That experience reshaped Emmons, too. Until that moment, she'd been at best a casual mountain biker. "Somehow I got introduced to this Kool-Aid that I never stopped drinking," she later told me. She began to return to Oakridge nearly every

weekend—to seek more trails, to build her climbing skills. To set herself free. She'd found rides less than an hour from her home in Eugene, Oregon, that felt like they were deep in the backcountry.

Within a year, she became well-enough known around Oakridge that the organizers of the Cascade Cream Puff asked her to take the helm of the event. The 100-mile cross-country race had helped put Oakridge on the mountain-biking map. Over 15 years, though, it had lost some steam, and Emmons was determined to bring back the glory days. For seven years she tinkered with formats, and by 2019, after offering shorter distances and



WE ARE OUT IN THE WORLD EVERY DAY AND ARE SEEING THE IMPACTS EXTREME WEATHER AND CLIMATE CHANGE ARE HAVING ON THE WORLD.

rebranding it as the Alpine Epic—honoring the beloved trail—she finally felt like she’d found a winning formula.

As if to seal her triumph, Emmons and her husband found a dream house in the hills above town. From the deck, they could look down on a meadow where elk grazed, or up to the peak of Aubrey Mountain, which at sunset flared orange with alpenglow. She rented out a separate, three-bedroom unit, noting in her Airbnb listing that guests could ride straight from the house to a popular trailhead. For her day job with an environmental nonprofit, Emmons often worked from her kitchen table, surrounded by windows from which she could watch the weather blow in.

Then, just as the couple was settling into the house, the first reports of a novel coronavirus began to trickle out of China. By that next summer, the pandemic forced Emmons to cancel the race. So in 2021, as that lightning arrived, she was feeling pressure to produce a successful restart.

The previous year, drought led to major fires across the state; now, again, the forests were dry. The storm sparked a small blaze near the Alpine Trail: just 20 acres, maybe less—but still enough to doom the race. Even on a mellow day, Emmons buzzes with energy. She’s a multitasker, unable to sit still for long. That day her stress went off the charts. Emmons stayed up late that night, sending out emails, but some riders never got the memo: They made the long drive into the mountains for naught. She had to sit at the local bike shop and break the bad news as riders arrived to register. “It was kind of heartbreaking,” she said.

Just weeks later, a high-pressure system settled over the area, creating a “heat dome” that trapped warm air, leading to weeks of record-breaking high temperatures. In August 2022, a fire broke out

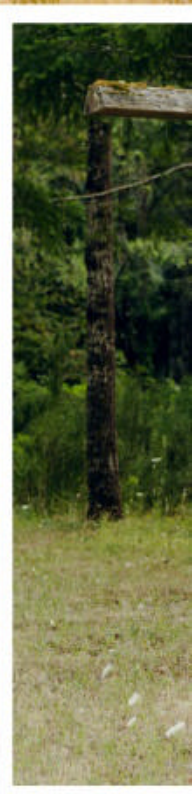
atop a nearby mountain and reached within three miles of Oakridge, prompting a Level 3 evacuation: Everyone must go. Emmons found herself ushering guests out of her Airbnb.

The endless chaos left Emmons exhausted, emotionally and financially. When I first spoke with her, in early 2023, she was ready to give up on the race and move on to new projects. That meant that the event that helped turn Oakridge into a sporting mecca was set to sputter out. Oakridge had been cited as a success story, an example of an impoverished old timber town pivoting toward a new and cleaner economy. Now it was becoming a different kind of harbinger: a preview of the struggles that mountain biking will face amid more destructive weather to come.

BY THE TIME the Cascade Cream Puff debuted in 1995, mountain bikers had been enjoying the trails around Oakridge for about a decade, and a few pioneering riders had begun to settle in; out-of-town friends congregated in their homes for weekends of riding. “Everyone would sleep on the floor,” said Kirin Stryker, one of those early visitors.

Kevin Rowell was among this early wave: He moved to Oakridge in 1996, seeking to escape a life amid sprawl. Early on, while scouting the local logging roads, Rowell stopped his jeep at a ditch that had been cut across the road and filled with concrete and rebar. He got out to investigate. A voice came from the trees: “What are you doing?”

A shuttle van operated by Cog Wild delivers riders to the Hardesty Trail. Cog Wild is one of several mountain bike guiding services in town.



Rowell was startled, but responded. “I asked him, like, ‘What are *you* doing?’” Rowell remembers. That is how Rowell first heard about the Timber Wars.

Oakridge had once been a bustling timber town. But, unable to compete against cheaper sources of wood, the nearby mills had shuttered; the town’s prospects were plummeting. Then came the activists fighting against the last gasp of logging and what it was doing to old-growth forests. On a mountain just a few miles outside of Oakridge, protestors built a fortress surrounded by a 10-foot wall built from scavenged timber and, beyond that, a moat with a drawbridge. From a 20-foot watchtower, a sentry could watch for the U.S. Forest Service. This camp, hastily assembled in late 1995, remained occupied for nearly a year. Thus, Oakridge became a key site in a decades-long battle over the forests of the Northwest.

Many pro-timber locals looked at the new wave of mountain bikers with skepticism. It probably didn’t help Rowell that he then had blond hair reaching to his waist. Whenever he walked into the grocery store, people would stop and stare.

For a time, at least, the tensions held back the sport’s development: Randy Dreiling, a regular Oakridge visitor, who then lived in Eugene, began to dream about launching a shuttle company in Oakridge, but worried that he’d be mistaken for an eco-terrorist. Not until 2002, as the tensions began to settle, did he pursue his plan. And even after he

moved to town and opened Oregon Adventures, Dreiling wound up in scuffles in bars and tailed by residents toting video cameras, he says.

But as the Timber Wars faded into history, Dreiling’s willingness to invest in an otherwise moribund town gained notice. He attended chamber of commerce meetings, then became its executive director. Suddenly a mountain biker was in charge.

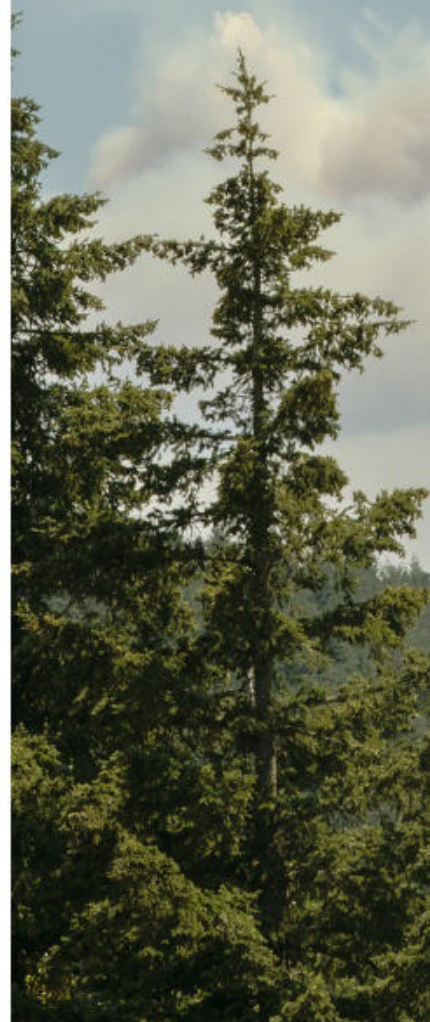
Dreiling soon launched an annual festival, Mountain Bike Oregon, and built relationships at the state and federal levels that helped bring in funds for more trail building. Rowell, who had taken a job with the Forest Service, became a key partner. In 2008, the International Mountain Biking Association recognized their accomplishments, naming Oakridge a “gold-level ride center,” one of only six such destinations in the world. A few years later, a University of Oregon master’s thesis that examined the impact of tourism found that bikers made around 15,000 trips to Oakridge each year, bringing in as much as \$4.9 million, a hefty chunk of change in a little town.

And those numbers preceded the latest growth spurt. In 2014, Kirin Stryker and her husband Lev expanded their Bend, Oregon-based mountain bike guiding business, Cog Wild, into Oakridge. By 2020, the Oakridge operations made up a third of their business. Then, two other shuttle companies opened. Outdoor recreation, it seemed, was a new model for a small town that had once depended on extraction. The science of climate change was well known by then, of course, but in the lush forests of Oregon, few people were worried that it might impact this new economy.

THAT NO LONGER seems to be the case. I found Emmons—and Oakridge—a few years back, when I began to reach out to outdoor athletes across the country to discuss their experiences with climate change. The stories were endless and varied. In flatlands outside of New Orleans, where I live, the sole major trail had been repeatedly swamped by floodwaters from the Mississippi. I heard stories about how unprecedented rainstorms were washing

Nick Gibson, owner of Trans Cascadia Excursions, an Oakridge-area shuttle company, photographed on a smoky day in Westfir, Oregon.





Above: Michelle Emmons
rips down the Dead Mountain
Trail. Right and bottom:
The number of smoke-filled
days in the Pacific Northwest
continues to rise.



out trails from Vermont to British Columbia. As I was reporting this story, western North Carolina—one of the biking hubs of the East—was devastated by flooding from Hurricane Helene, with whole towns and businesses washed away. Then came the fires around Los Angeles that burned for weeks earlier this year.

Fire is perhaps the most devastating manifestation of an increasingly warmer climate. Even a distant fire can smear the sky with smoke, making outdoor activities hazardous. Barry Wicks, a pro rider based in Bend, Oregon, told me he keeps an app on his phone so that during fire season he can check on the air quality: “Like, where can I go that [the Air Quality Index is] fairly marginal, low enough that I can go ride?” In recent years, there’s been so much fire across the West that it’s changing the way mountain bikers think about the sport. One recent summer, some friends, mostly teachers, wanted to get out of town for a few days before school picked back up. “I was like, ‘Well, we can’t really plan that because we don’t know what’s going to be on fire,’” Wicks said. “It totally changes the calculus.” The kind of freewheeling adventure that first drew Michelle Emmons is impossible now.

Wicks works with Protect Our Winters, an organization that mobilizes outdoor athletes to fight climate change. Launched with a focus on winter sports, the nonprofit expanded to include mountain biking in 2022. Some see that kind of activism as a needed corrective. Kristian Jackson, a senior lecturer in recreation management at Appalachian State University in North Carolina and a leader in the local mountain bike scene, told me he felt like the community had its collective head in the sand. Given the impacts a warmer climate will have on mountain biking, riders may need to do more.

Jackson attributed the silence in part to how much work bikers have had to do to gain access to trails: After writing grants, holding meetings, and finding volunteers to move dirt, trail advocates find there’s not much left for climate activism. It hasn’t helped that some strict conservationists see bikes as unsuitable for federally designated wilderness—too fast, too mechanical—which has created a schism between seeming allies. But there’s also the fact that people come to mountain biking because it’s a joyful thing, and don’t necessarily want to get political. “Just recreating in general, it’s a very, very privileged thing,” Nick Gibson, the owner of Trans Cascadia Excursions, one of the Oakridge-area

shuttle companies, told me. That made him wary of getting too climate-centric as a business owner, for fear of being perceived as hypocritical. (Gibson also noted, rightly, that the fires are a complex problem, often distilled to just a climate issue; among other factors, forest management practices—including decades of fire suppression—played a role in the recent disasters.)

In 2020, David Wiens, the executive director of the International Mountain Bicycling Association (IMBA), told a journalist that the group “does best when it stays in its lane”—which seemed to mean, in essence, that IMBA should stay out of the climate fight. (Wiens told *Bicycling* that while he did not want to rehash that conversation, he is “deeply concerned” about climate change and that IMBA aims to preserve public lands and help the sport adapt.) Wicks, though, sees mountain bikers as key potential advocates: They’re canaries in the coal mine. “Most people aren’t spending very much time out in the wilderness,” he said. “As outdoor recreationists, we’re out there in the environment—we’re not just going through air-conditioned buildings. We’re out there in the mountains, on the trails, and that’s where you notice these things.” It’s his duty, in other words, to raise the red flag.

In Oregon, the canary began to choke in 2020. Throughout that summer—with COVID-19 already stifling the tourism economy—the region suffered a severe drought. Then, on Labor Day, dry winds roared in from the east. The gusts ripped power lines down, and the resulting sparks may have stoked some flames; elsewhere, the wind whipped



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**IN THE 50 YEARS PRIOR,
A MILLION ACRES OF FOREST
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IN A MATTER OF WEEKS.**



Left: Kirin Stryker flows down the Alpine Trail, which put Oakridge on the map. Above: A burn area near the Heckletooth Trail.

small, smoldering lightning burns into much larger conflagrations. Within three days, five separate “megafires” were burning throughout the Cascades. In the 50 years prior, a million acres of forest had burned on the western slopes of this mountain range; the Labor Day fires churned through nearly as much land in a matter of weeks.

These megafires “razed whole towns,” Kirin Stryker told me. “It [was] pretty apocalyptic.” At least nine people died; 90,000 were forced from their homes. Total property damage reached \$7 billion. Cailin O’Brien-Feeney, who then worked as the director of the Oregon Office of Outdoor Recreation, told me the fires changed people’s perspectives. Before that fall, there had been a sense of complacency: Sure, down in California their drier forests had been burning for decades, but Oregon had seemed safe. Now locals learned a lesson we may all learn soon enough: There are few safe places in the new world we’ve unleashed.

AS I DUG into the issue, I found that no one could pinpoint how much fires have cost mountain biking. The official reports of the Intergovernmental Panel on Climate Change, the United Nations–convened body that summarizes climate science, note that ski seasons may soon disappear in some popular destinations. That’s easy to measure, since if there’s no snow, there’s no skiing. But when Dom Winter, the head of policy and advocacy with the United Kingdom chapter of Protect Our Winters, decided to study the future of mountain biking, he realized the climate discussion was short on numbers.

“It’s quite the early days on that side of it,” Winter told me. He found plenty of anecdotal data about climate impacts on biking. Floods and fires: The physical effects were obvious. “But it’s hard to get that final step of exactly how frequently [those impacts] would cause a problem,” Winter said.

So, to jump-start the conversation, Winter compiled what is in effect a taxonomy of how those physical impacts will alter the sport. The resulting report—*Downhill From Here*—offers several categories. One is access: Extreme weather will close some trails. Another is rider health and safety, whether due to dangerous heat or wildfire smoke. Specific events, too, may have to be canceled. Finally, there’s the more ineffable idea of “experience.” As some trails close, will riders be forced to cluster together in the same few areas, diminishing the joy

all around? How many people will miss out on that conversion moment that Michelle Emmons had on the Alpine Trail?

Winter noted that the next step for researchers will be to dig into specific locations to map out the impacts; from these case studies, a more general sense of the issue might emerge. Which is precisely what brought me to Oregon. The 2020 megafires spared Oakridge, though the Forest Service instituted a “blanket closure” across the Willamette National Forest that closed the trails, and the outfitters “just kind of sat still for a while,” Stryker told me. But two hours’ drive south, in a patch of forest along the North Umpqua River, the flames were far more devastating: 30 miles of infrastructure along the North Umpqua Trail, a long-distance biking and hiking route, were destroyed.

Audrey Squires, who at the time worked as a restoration program coordinator for the National Forest Foundation, met me at the trailhead. The nonprofit aims to link people with federally owned forests, and much of Squires’s job consisted of trying to raise funds to fully restore the North Umpqua Trail—or the “NUT,” as it’s known to fans. We stood together before an arboreal graveyard. The fir trees had been turned by the fire into tall, blackened poles bereft of needles. With the canopy gone, there was at least a clear view down to the North Umpqua River; thanks to the sunlight, a profusion of shrubs covered the forest floor.

Squires told me that she’d already been able to ride the first few miles of the trail by bike, but the work was ongoing: A crew of high schoolers was hacking at the brush and sawing through downed trunks—clearing the ground so a professional trail-building crew could install new bridges and boardwalks. The word “BEES” was spray-painted on one of the trunks, a signal that the dead wood had been colonized by a hive and ought to be left alone.

Squires introduced me to one of the crew leaders overseeing the students. He had been born and raised in Glide, he told us, a small town just west of the trailhead, where the local mill had managed to hold out until 2006. Squires hoped that the NUT might deliver the same kind of partial revitalization taking hold in Oakridge: There’s now a daily shuttle service, and outfitters offer multiday supported tours on the NUT; the first local mountain bike race, the Nutcracker, had debuted in 2018. These initiatives meant that after a few years of quiet,

new restaurants were opening in Glide, catering to mountain tourists—a sign that the recreation economy had been building steam. But the Nutcracker had been unable to return since the fires. The new era in Glide would have to be postponed.

“I think it’ll come,” Squires said. “But the fire is a huge setback.”

Even a small burn can mean substantial work for trail managers. Kevin Rowell, the long-haired rider turned Forest Service ranger, said that after one fire near Oakridge in 2000, eight years passed before the killed trees finally stopped collapsing. Squires had introduced me to officials from the Bureau of Land Management and the Forest Service, the two federal agencies that own the land along the NUT. They noted that while they’d removed the most dangerous snags along the trail already, here, too, trees will keep falling for a decade or more.

We hiked a mile down the closed trail to reach one sign of progress: a newly installed bridge built from iron, rather than wood, to ensure it will not need to be replaced if another fire burns here. Squires had been on site for the installation. Given the terrain, the work had to be conducted by helicopter. Over several trips, the bridge and its foundation, hanging from a cable, were carefully lowered into place; then the charred old structure was carried out. Because of the expense of this procedure, the total cost to replace the 15 bridges that burned along the NUT will likely reach \$2.2 million.

And that doesn’t include repairs to the trail itself. At one point on our walk, the NUT ran along a sheer, rocky slope that had been completely cleared of vegetation. With nothing to hold the soil in place, the footing often gave way. It was clear why no one would be racing here anytime soon. As I scanned the slopes, I could forget that a trail had ever run here at all. Squires indicated that explosives may be necessary to blast new flat benches into the bedrock in such sites—bringing the total estimated costs for restoration to \$3 million.

SQUIRES TALKED ABOUT how she hoped the fires would be a motivator as much as a deterrent, that people might be inspired by the disaster to contribute to the trails that meant so much to mountain biking. I encountered similar talk from other riders in Oregon: Resilient Headwaters, a coalition meant to uncover grown-over trails in a canyon in central Oregon, touts the potential for increased tourism to inject new cash

into a fire-ravaged region.

Trails can do more than bring in money: Gabriel Tiller, a trailbuilder and planner who helped organize Resilient Headwaters, points out that trail networks can offer firefighters access to backcountry burns. In some places, singletrack trails have provided enough space to double as a firebreak.

In the “vision deck” that lays out the case for Resilient Headwaters, Oakridge and its multi-million-dollar recreation economy is cited as a proof point. Then again, studies show that the conditions that made the Labor Day fires so bad—extended drought combined with dry, east winds—will grow more common, thanks to the warmer air. Indeed, there have been so many fires in the years since 2020 that I found locals’ memories blurred into a smear. What years were the evacuations? Which trails burned in which fires? No one could get their timeline straight. From another point of view, then, Oakridge is less a proof point than a warning of the risks of depending too heavily on tourism.

And fire, again, is not the only threat, even in Oakridge. The same rain in 2022 that nearly ruined the Alpine Epic meant that for four weekends in a row, Cog Wild could not run its shuttles, Stryker told me. By the Saturday before Memorial Day—a big kickoff weekend, when tourist traffic starts to ramp up—the conditions finally looked encouraging. A big group had come from California and rented out several of Cog Wild’s vans; public shuttles were running as planned. The Strykers themselves decided to get out and ride, too. The first route they tried—Hardesty to Eula—seemed just fine: steep and tight-packed, running through dense forest, the singletrack drained well in the rain. After the Strykers finished, they hitched a ride on the shuttle to Lawler, another beloved trail. “And it was like soup,” Kirin Stryker said. They didn’t even wait to get to town: The Strykers pulled off at an overlook and called the office in Bend. Start processing the cancellations, they told their employees.

“IT WAS AWFUL,” Stryker said later, an unpopular choice that was necessary not just for the local ecology, but to sustain her business. “If we don’t steward responsibly, we could lose our permits,” she noted.

A barista at a coffee shop told me there’s a feeling of PTSD in town. Gibson put it more bluntly: 2022 “was fucked,” thanks to months of some of the worst air quality in the world.

Randy Dreiling, the entrepreneur who started

Oakridge's first shuttle service, said that all these fiascos caused him to rack up debt. Eventually, he gave his real estate back to the bank and shuttered the company. When I asked if the company was a victim of climate change, Dreiling's reply was clear: "Absolutely."

The companies that remain in town are scrambling, searching for ways to steady their business. Emmons told me she'd learned to stop putting dates on her T-shirts and medals for the Alpine Epic, so that if a race gets canceled at the last minute, she won't wind up thousands of dollars in the hole. The owners of the Westfir Inn, a bed and breakfast, began running shuttles in 2019; they told me they were contemplating buying a second property somewhere farther north, perhaps in Alaska, to hedge against a natural disaster. (Eventually, they sold the lodge, though they still own the guiding service that runs shuttles.) When every place seems at risk, the more locations you do business, the likelier it could be that one survives.

Kirin Stryker noted that if they had not already been running trips in Bend, which so far has been luckier than Oakridge, they, like Dreiling, might have folded, too.

I ARRIVED IN Oakridge amid a bout of what locals know as "Juneuary" weather: Though the official start of summer was just a few days away, the temperatures hovered in the forties. Fog and rain shrouded the mountains, which, combined with the following days of sunshine, helped to refresh and soften the trails. As I shuttled up through the forests, the ferns dripped with dew. Moss slipped off every tree's bark and roots. It was hard for me to imagine this place could ever burn.

But my driver corrected me: I was seeing the first rainfall in weeks. He pointed at the yellowed grasses in the pastures we drove past. A worrying sign, in his estimation. The rain, he figured, had bought the mountains maybe an extra week. But it was inevitable that fires would still come that summer. "It's the usual now," as Nick Gibson later put it to me—not just because of climate change, but because of the many ways humans had changed the region's already-dynamic landscape.

Indeed, by late July, a month after my visit, a fire broke out near a campground northwest of Oakridge. Cog Wild sent out a newsletter encouraging customers to check smoke forecasts and be prepared to adjust as necessary. ("Consider yourself a risk

factor," the email suggested, given that many fires are accidentally started by careless campers.) Soon, a second fire smoldered just a mile and a half from Michelle Emmons's home. Then in 2024, despite clear skies and firm trails, a cluster of small lightning fires closed Alpine Trail—tanking business, since the town now lacked its biggest draw.

To the south, along the Umpqua River, things were tougher. The town of Roseburg was besieged by smoke for weeks after my visit. I had met Paul Whitworth, the president of the Umpqua Velo Club, on my hike along the NUT; he was, he figured, among the first people ever to bike on the trail. He emailed to tell me that just days before his club's big event, the venue was commandeered as a base camp for fire crews. He had to scramble to set four new routes. The day wound up beautiful, he told me, but the stress of the scramble had made it unlikely that he'd plan another event. The "unpredictable climate," he said, just made it too hard. On the North Umpqua Trail itself, a second bridge was installed in 2024, and funding was secured to complete the trail repairs, but the Nutcracker remained on hold.

The mountain bikers in Oakridge, though, were forging onward—enthusiastic, even, about how the scene was growing. Stryker indicated that in the year after my visit, new restaurants had opened and a regular farmers' market had taken hold. Some new arrivals had revived an old tradition of regular disco dance parties. And perhaps there's good reason to be bullish about Oakridge's mountain bike future: Interest in outdoor sports has been increasing despite—or maybe even because of—the climate disasters.

"It used to be if you were the mayor of some town, [your priorities] were like, 'fire, water, sewer, police,'" says Ashley Korenblat. "Now it's 'fire, water, sewer, police'—trails." Korenblat, a hall-of-fame mountain biker, now runs a nonprofit consultancy, Public Land Solutions, that helps communities pivot away from total dependence on oil-and-gas economies and toward a recreation economy. Some academics speculate that climate change might send even more people outside, if only for the psychological salve of nature. And that, Korenblat says, could lead to a virtuous cycle, since when landscapes are protected for trails, that tends to discourage extraction and development. More oil in the ground, more trees in the forest—that means less carbon in the air.

WHEN I FIRST called around, gathering climate

stories, Michelle Emmons had sounded dispirited. The Oakridge downpours had complicated the 2022 Alpine Epic, since the forest permits required that she “mitigate” any impacts, and the wet conditions would increase the damage; anticipating that smoke might inhibit the restoration, she changed the course to focus on less-sensitive trails. After another fire hit Oakridge that August, the smoke and flames put a damper on the work. She found herself exhausted and despairing.

But when I met her in person the next summer, she, too, was in far better spirits. The latest Alpine Epic, held a few weeks earlier, had been a triumph. The course ran through an active timber sale, a site where a crew was working six days a week felling timber, a fact that threatened to once more cancel the race. But Kevin Rowell, the Forest Service trail manager, approached the timber crew foreman and explained the situation. The entire crew agreed to take off that Saturday, working on Sunday instead. (“Blew my mind,” Rowell said—a sign of a sea change in the local culture.) Volunteers had stepped up, too, keeping the event running smoothly. Almost 200 riders entered—the race’s biggest-ever field. Emmons told me afterward that it would be a disservice to end the race. She is searching for someone else to take over, not because she’s in despair, but because she’s pursuing larger political ambitions: She ran for Congress in 2022 and 2024, campaigns that fell short but, combined with her professional work, put new demands on her time.

Emmons indicated that her renewed enthusiasm was not just due to one successful race. Throughout the years of pandemic and fire, a new coalition has emerged. The local trail-building community had once been a bit of a free-for-all, different groups pursuing whatever trails they preferred. Now the work is conducted under the umbrella of one organization, the Oakridge Trails Alliance, or OTA.

The fires have opened up a funding stream as the Forest Service steers money toward fire recovery. Since 2020, new federal laws have brought more than \$600,000 to the OTA. Emmons noted that the week before I visited Oakridge, the OTA had helped Trans Cascadia, working under the direction of the Forest Service, reopen a new set of trails on Heckletooth Mountain. “Sure, there’s a lot of problems that have come along with climate change,” she said. “But within every problem, there is an opportunity.” The OTA, she noted, is working to ensure the restored trails

will be more resilient in future disasters; through collaborations, the group is considering how the trails might be fire barriers and firefighter access points.

Before I left Oregon, on my last day in Oakridge, I drove up into the forests. I had been intrigued by Rowell’s stories of the protestors he’d found there, and decided to seek the site where they’d built a fort and locked themselves down for a year. I had a set of written directions but lacked a good map. As I ascended the mountain, my cell phone signal dwindled to nothing, and after navigating a half-dozen unmarked forks and intersections, I gave up on my quest. I told myself that I couldn’t have missed much: After 30 years, whatever was left of the camp would have been swallowed by the forest. Besides, the area had been singed by fire.

Still, I kept driving, following whatever gravel road seemed least likely to cost me my rental car deposit. The deeper I got, the more I understood the idea that forests constitute a place all their own. As Emmons told me, just a few miles from Oakridge, you can forget that there is any town at all. Even if I could not find the fort, its name—Cascadia Free State—seemed fitting. I understood then why Emmons had fallen in love with mountain biking. I remembered why we all fall in love with outdoor adventures, the way it allows you to leave behind the troubles of the world. But we cannot escape climate change.

Eventually, by happenstance, I found myself atop Heckletooth Mountain—site of the recently reopened trail. So I parked the car and began to explore.

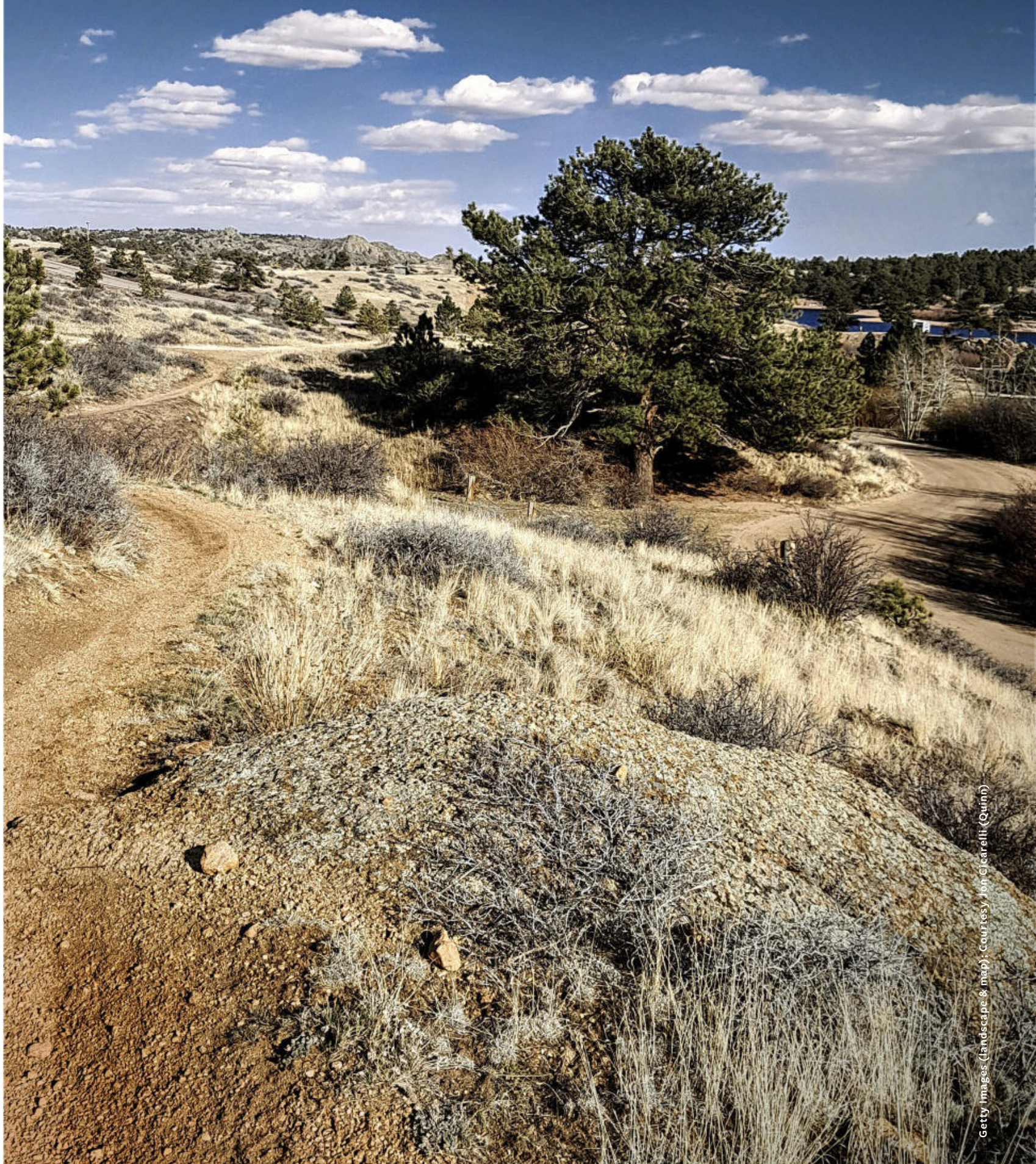
Nick Gibson, the owner of Trans Cascadia, had organized the work party and later described the event to me: There were 35 volunteers, he said, most of whom camped in a meadow outside of Oakridge and shuttled up the mountain every morning. As the sun lifted over the mountain, they drank steaming cups of coffee; there was whiskey to sip in the evenings, as the sun slipped down again. On the fourth and final day of the work camp, free shuttles carted everyone up to the trailheads—a celebratory day of riding.

It sounded like an echo of the old Cascadia fort, though this time there was not a fight, just an effort to work together to rebuild. No one thinks that’s enough to stop the chaos. “I’m expecting fires this year,” Gibson had told me—which proved to be correct. But after a fire comes ashes. And what will rise from those ashes? If we want to keep mountain biking—and keep this world intact—we need more efforts like this. **B**

Last summer, a University of Wyoming art professor pedaled his singlespeed into the Laramie wilderness and never came back. His friends and family are still hoping for answers.

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BY DAVID HOWARD



Getty Images (landscape & map); Courtesy Jon Clearelli (Quinn)



WHAT HAPPENED ===== TO ===== NASH QUINN?

J

JON CICARELLI STILL REMEMBERS STANDING ON the ridge at night somewhere in the mountains outside of Laramie, Wyoming, in the summer of 2009. His longtime riding buddy Nash Quinn was standing next to him, and they were studying the landscape, trying to figure out what to do. They'd become disoriented on their mountain bikes and were now marooned with no headlamps or GPS and no idea how to get back to Laramie, where they were undergraduate students at the University of Wyoming. Clouds smothered the stars, but they had one way to orient themselves: Off in the distance they could see clusters of lights that could only be the cities of Cheyenne and Laramie.

Getting lost was sort of the point. The two men had met through a mutual friend the previous summer on a fishing trip in the Snowy Range Mountains, west of Laramie. They connected instantly, in part because they were both approaching their mid 20s, which made them older than the typical undergrads. Quinn had done a tour in the military, returned intact from Iraq, and was close to earning the first of two bachelor's degrees on the GI Bill; Cicarelli had returned to school for a second degree after a stint in AmeriCorps. But even more than that, they shared a passion for testing their mountain biking skills, seeking out Wyoming's most challenging trails.

Most often they headed to Happy Jack Recreation Area or Curt Gowdy State Park to bomb along the extensive cross-country system. But on

days they had more time, they headed out on epic, aimless, all-day adventures like the one that led to being stranded in the dark that night. They'd ride into Medicine Bow National Forest, pedaling as far north as they could, picking random routes that sometimes dumped them out onto private land. They'd ride past century-old shepherd cabins on dirt roads and singletrack and sometimes no trail at all, just to see where they could go; that far from town, there are few fences or boundary markers.

This wasn't the first time they'd ended up lost high in the mountains after sunset, but this was perhaps the knottiest situation they'd pedaled their way into. Staring into the void, they made the only call that made sense. "We ultimately decided that the dimmer light pollution was probably Laramie, so we're gonna go that way," Cicarelli remembers.

Wending their way down through sagebrush, they used whatever moonlight leaked through the cloud cover. They rode through an elk herd, the giant animals bugling back and forth. The outing could have gone sideways in any number of problematic ways; those mountains are notoriously unforgiving. But they clattered triumphantly home around midnight, nearly out of water and exhausted. "It was kind of exciting," Cicarelli recalls; after that, they started calling those rides "bike safaris." Instead of turning into a search-and-rescue debacle, the adventure served as proof of their invincibility and drew them even closer.

Cicarelli thinks back often on that trip—about how they were "young and dumb," he says with a laugh. He thinks about how little time he has for that kind of thing now—he grew up, got married, landed a job, had a family. Cicarelli still rides hard when he can, which isn't often enough, but rarely takes the same kind of chances. But at age 39, Quinn was riding with the same palpable hunger for adventure. The older he got, in fact, the more he seemed driven to revisit on a bike whatever it

In 2014, Quinn worked as a technical assistant at the Haystack Mountain School of Crafts in Deer Isle, Maine.

Previous spread: On a ride in 2024 just weeks before Quinn vanished.

Courtesy Jera Lodge (Quinn)





was they felt that night, when it wasn't clear how or even if they'd get home.

IT WAS A thoroughly unremarkable exchange, one of hundreds Doug Russell has initiated as head of UW's Department of Visual Arts. At 8:47 a.m. on July 8, 2024, he emailed Nash Quinn, the visiting assistant professor heading up the metalsmithing program, to tell him a package had arrived for him. Quinn acknowledged the message at 5:35 p.m.

The two men had known each other since Quinn's time as an undergrad at UW more than

a decade earlier. He'd gotten his BFA in studio art in 2012—the second degree Quinn earned at UW—then headed east to graduate school before rapidly attaining success as a metalsmith.

Russell was thrilled when the department hired Quinn in 2023. There was an ease to their rapport, and he thought nothing of the email exchange until 12 days later, when the organizer of a workshop in Arizona reached out. Quinn was slated to teach that month, but no one had been able to reach him about travel plans, and could Russell help locate him? Such lapses weren't



had recently moved to a new apartment in Laramie, and the university didn't have his new address. Russell then reached out to their colleagues, along with Quinn's mother and sister and some friends, to

answer what had become an increasingly pressing question: Had anyone heard from Nash lately?

No one had—and his failure to reply to the workshop organizers was worrisome and out of character. He could be socially distant, but he was always on point with professional communications. When the police finally visited his new address, they found Quinn's car parked near his apartment; his wallet and phone were inside. Only three of his possessions were missing: his cycling shoes, his helmet, and his mountain bike.

Quinn's work includes this enameled vessel made from copper pipe with handmade steel bow springs that snap the lids shut, and an enameled vessel and heart rattle made for his girlfriend, Jera Lodge.

unexpected at that time of year; summer was when professors did research, or residencies, or plunked down on the beach. Furthermore, Quinn sometimes dropped out of touch for brief periods, even with friends. Still, Russell "sent a barrage of things," he says—a text, an email, messages on social media.

There was no reply, and Russell noticed Quinn hadn't left a digital breadcrumb on social media since logging into WhatsApp on July 8, the same day they'd emailed. Unsettled, Russell asked the police to do a wellness check, but Quinn

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Courtesy Jon Ciccarelli (Quinn)

IF QUINN WAS STRUGGLING, HE MAY HAVE SET OUT FOR ONE OF HIS SURVIVAL RIDES AND FIGURED, IF SOMETHING HAPPENS, IT HAPPENS.

IT'S NOT HARD to connect the dots on Quinn's love of bikes and adventure. His father, Eddie Quinn, was the gardener and handyman on a 4,000-acre ranch at the mouth of Goose Canyon, in Wyoming's Bighorn Mountains. The ranch was hard up against Bighorn National Forest, home to mountain lions and moose. Nash and his older sister, Tess, were "free-range kids," says their mother, Liz Quinn. "They walked out the door," she recalls, "and it was as close to living in the wilderness as you could get and still have electricity."

Nash was a child of unusual focus and maturity; Liz says the best gift she ever gave him was modeling clay, which he molded into intricate sculptures. He didn't like attention, so she and her husband would sneak into his room to look at his creations. "He was like a little da Vinci," she says, "sketching things out, trying to figure out how the world was working." By the time he was 3, he would sit still for hours, drawing or building.

Before they'd had children, Eddie and Liz had tackled some ambitious bike tours; once the kids were old enough, they bought tandems with attachments to accommodate a child. On trips with long climbs, like on Canada's Icefield Parkway, Liz would call back for extra power. "They had to help us out; we were loaded down with panniers," she says. "They were good troopers on the back of those bikes."

They rode in this fashion in Hawaii and across Vancouver Island and to the Grand Canyon, where

a spring blizzard surprised them; lacking gloves, they wore socks on their hands. "People I worked with used to ask us what we were going to do to our kids this year for vacation," she says, laughing.

But Nash loved it; during one trek he sculpted a tandem bike out of gum wrappers; another time, after a stop at a diner, he taped a restaurant creamer container to spokes to see if he could make butter (it worked). It was the beginning of an enduring passion. During a visit with his mother in Montana as an adult, he rode 30 miles on a singlespeed in flip-flops. On another ride, she seemed to be climbing with less effort than usual, even in her easiest gear. She looked back and saw that Nash was pushing her frame along using a forked stick.

After a stint in Iraq, Quinn arrived at UW steel-cable lean at 5-foot-11 and 165 pounds. He entertained friends with a dry but raunchy sense of humor, grew his blond hair nearly down to his shoulders, and shredded drops and technical terrain on a mountain bike. No matter how hard Cicarelli rode, Quinn—often wearing soccer shorts and a T-shirt—always surged ahead, then waited at trail junctions. "He couldn't give a rat's ass about the latest bike, or bike geometry, or carbon fiber or anything like that," Cicarelli says. "He wasn't doing it to be ironic and cool; that's how he was hardwired." Quinn also had a singlespeed Bianchi commuter, which he pedaled everywhere, refusing to drive even during the notoriously fierce Wyoming winters.

When Quinn was finishing a psychology degree, a friend saw his drawings and suggested he stop by the visual arts department. He took some introductory classes and something clicked. Ashley Hope Carlisle, who teaches sculpture, had Quinn in a cast-form class and soon found he had both a wicked sense of humor and preternatural talent. On the first day, students were given clay and taught how to warm it up using their hands. After class, Carlisle noticed a tiny sculpture where Quinn had been sitting with a friend. "It was the

Quinn made this spring-loaded Trigger Study Ring in 2019 from gold-plated brass, steel, padauk wood, and feathers.
Previous spread: On a ride in 2023 shortly after Quinn moved back to Laramie.



most meticulously modeled little penis,” she says, laughing. “It was probably like half an inch tall. And next to it was a little piece of paper that said, ‘Brandon’s wiener, full scale.’”

She and much of the rest of the faculty quickly took to him. As Quinn became a fixture there and aimed for a second degree, Carlisle cast that original sculpture in bronze and made it into a keychain to present to him at the department’s senior dinner, which usually took the form of a roast. Art is a notoriously tough field to break into, so much so that 90 percent of art majors don’t practice their craft again after graduating, Carlisle says. But with his metalsmithing work, Quinn soon emerged as an exception—someone who could slip through that fine filter on the strength of technical precision, whimsical imagination, and ferocious work ethic. “He had a very meticulous style—a... perfectionist in his artwork,” Carlisle says. “He was extremely talented.”

IF QUINN WAS flourishing at UW, though, he was the only one who didn’t seem to notice. He was painfully self-deprecating, insisting he was bad at whatever he tried; Cicarelli observed that he genuinely had no clue when girls were interested in him. While this telegraphed shyness, Quinn had a harsher view; in a video shot while he was in graduate school, he describes his artwork as “basically a complex examination of what it’s like to be a...rather socially inept individual making work that forces you to interact socially with someone through this physical object.”

David Jones, Carlisle’s husband and a fellow UW art professor, taught Quinn in an introductory 3-D design class; they later bumped into each other at the Laramie Mountain Bike Series—Quinn in the advanced group and Jones in intermediate. Jones describes the now-defunct series as a “Tuesday night let’s-go-out-and-give-it-hell kind of thing” in which people competed hard, practically marinating in lactic overload, despite the lack

of any stakes. One night, while chatting afterward, Quinn and Jones likened the event to *Fight Club*—everyone suffering together

Jera Lodge with Metric,
the cat she and Quinn
adopted together.





A lot of Quinn's work featured springs. One of "their most important but least glamorous functions is to make something work over and over forever by storing and releasing... energy," Quinn once said.

but feeling keenly alive.

"He would talk about kind of thriving on that...like, 'I love it. It's so brutal and painful going so hard, but it's fun,'" Jones says. "I remember thinking, *Man, you're right. I never really thought about it quite like that.*"

Quinn grew stronger as the 2011 season passed; by the final two races, he placed fifth, then fourth, in the advanced division. But Quinn was oblivious to his burgeoning talent. "I drink too many beers and I'm fat and slow" is how Jones recalls Quinn describing his exploits. "I'm like, 'Your idea of fat and slow is like the fastest I'll ever be,'" Jones says.

In 2012, after graduating from UW, Quinn enrolled in graduate school at Edinboro University of Pennsylvania (now Pennsylvania Western University), where he met Jera Lodge, a 26-year-old metalsmithing student. Soon they began dating, and they remained a couple even as Lodge bounced around the country on residencies and crafts-school-related jobs while Quinn finished his degree. When he graduated, they moved to Philadelphia. Quinn's art projected his quirky sense of humor and pathos: He crafted boxes and enameled vessels made from brass sheet and copper plumbing pipe, and jewelry with surreal functionality. There was a ring that featured a miniscule working crossbow. He created something he called a "vile vial"—a vessel pierced with dozens of swear words. There were miniscule pistols that actually fired, which he pivoted away from after accidentally shooting tiny projectiles into his finger and calf. (He also decided not to sell them, for liability reasons.) "They work well, but they're way too dangerous," he told Jones. As a party trick, he would pick up a magnet with his fingertip, which still had steel shot lodged in it.

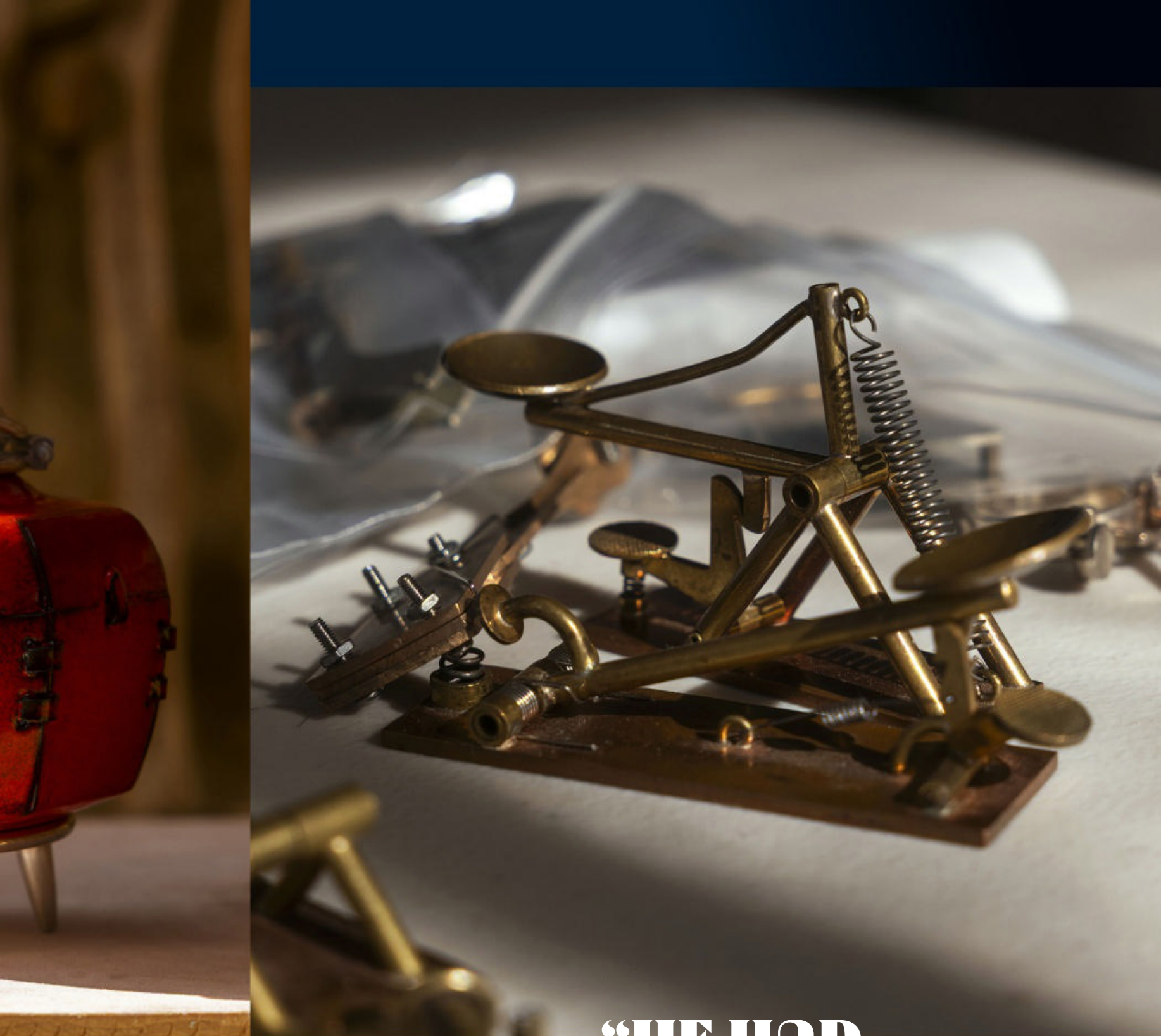
"When he would get excited about something, he would just light up," Lodge says. "And you really see that in the things he did, particularly with his enamel work. Those are just fun, joyful pieces."

He became a sought-after leader of workshops, some of which are posted on YouTube. One class on spring-based mechanisms shows the depth of Quinn's immersion in his craft. He speaks in a

slightly singsongy way, a little surfer-dude-ish, and seems a bit pained by the small talk at the start and finish. But his passion for his work is unmistakable. Largely overlooked in an era of jaw-dropping technology, springs are both simpler and more complex than you might imagine, he explains. One of their "most important but least glamorous functions," he says, "is to make something work over and over forever by storing and releasing that energy, rather than that energy being used to wear out the function of an object."

The class is ultimately a fascinating colloquium on the many ways springs can be deployed on pieces of art. He demonstrates how a spring works together with a detent—a small opening that receives the energy it creates—to create a distinct





“click” when it’s opened or shut. “A detent will work without a spring,” he says, “but it will only work a few times without a spring. I think a lot of people have had that experience where you make what you think is going to be a very nice, secure clasp, and it works, and it clicks shut, and it’s fantastic. But then you cycle it a few times—you open and close it, whatever it is, and it stops working. The click goes away.”

When the pandemic slowed their career tracks, Lodge moved in with her parents in Pennsylvania and Quinn moved back to Montana to stay with his mom. The couple managed the distance for a time, but Quinn had a pessimistic side that exerted primacy over every component of his life. Lodge describes his outlook as often leaning toward “glass

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half empty, with the bottom cracked.”

“He was just always expecting the worst, and never expecting anything to work out,” Lodge says. “And I loved him so much, and it was so brutal to be in such direct proximity to that mindset about everything for so long.”

When Quinn moved to Houston for a residency, she made the painful decision to discuss ending their relationship after nine years. “He just accepted it,” Lodge recalls, “because I think everything that didn’t work out was a foregone conclusion for him.”

But then something unexpected did work out. In 2023, UW’s metalsmithing professor retired, and Quinn applied. That summer, he was offered the position. “He was pretty excited about having a job,” his mother says. “He’d been traveling all over the place to do workshops. So to just be settled in somewhere was a good thing.”

At least it seemed that way at the time.

WHEN JON CICARELLI heard that Quinn was returning to Laramie, he was excited. They hadn’t seen much of each other in the past decade, but in 2018 Quinn had flown west to take part in Cicarelli’s wedding. “He stepped up and gave a just off-the-cuff, hilarious toast, where he made sure to embarrass me,” Cicarelli remembers.

Cicarelli began sending him trail maps and updates. “I was like, ‘Dude, you’re gonna go riding with me,’” he says. There would be no more bike safaris—Cicarelli works as GIS manager for Wyoming State Forestry, and trespassing is out of the question—but the mountain biking scene had improved significantly, with the development of Pilot Hill and the Happy Jack Recreation Area and Pole Mountain. With near-constant bike advocacy and trail construction over the past decade, the area has blossomed into a massive network that includes Medicine Bow National Forest, mixing aspens, woodland, and open prairie with the signature vertical terrain. A new connector trail had opened in town, so that a cyclist could ride from UW and into the national forest without leaving public land or touching pavement.

Quinn initially seemed reluctant to resume his hard-riding ways; a bad crash could be a nightmare for someone making a living with his hands. But one ride to Pilot Hill was all it took. “He got the fever,” Cicarelli says, “and was shopping for bikes. He dove in headfirst.”

Quinn hunted online for singlespeeds, which seemed extreme for Wyoming’s multi-thousand-foot climbs

and rough terrain. But Quinn didn’t mind suffering and liked that a rigid fork “wasn’t a crutch,” Cicarelli says. “He had to rely on skill.”

He eventually settled on an older Redline Monocog Flight, a fully rigid singlespeed, and immediately painted it white in case it’d been stolen. He bought a new saddle and clipless pedals and his first-ever disc brakes. “That was a big deal for him,” Cicarelli recalls.

Laramie sits at 7,200 feet, and Quinn needed a few weeks to adjust to the altitude. But he rode everywhere, just like the old days, all winter long. “I was probably riding stronger than him when he got here, but he quickly eclipsed me,” Cicarelli says. “He was a badass on his bike. He kept the seat really low because he was out of his saddle like 90 percent of the time.” During the winter they went out on fat bikes with headlamps and rode through snow-blanketed forest; sometimes they’d catch the eyeballs of moose staring back at them.

In June of 2024, they went camping, headed off on several rides, and gathered for barbecues at Cicarelli’s house. After a ride on Pilot Hill, Cicarelli left for a work trip to San Diego, so they didn’t talk for about 10 days. When Cicarelli returned, he texted Quinn about a newly completed trail they’d planned to ride.

There was no response, but Cicarelli didn’t think much of it; Quinn sometimes didn’t reply straightaway. That was just Nash, and everyone knew it. Cicarelli also recalled that Quinn had plans to teach summer workshops. “But then I hopped on Facebook,” Cicarelli says.

What he saw stunned him: It was a missing-person poster, and the person in the photo was Nash Quinn.

WYOMING IS A place where people get lost. There are fewer than 600,000 residents spread across just over 97,000 square miles—the nation’s smallest population living in the ninth-largest state. Much of the empty space is comprised of high-altitude, unforgiving wilderness that experiences volatile and extreme weather and is home to predators like wolves and mountain lions. Wyoming search and rescue personnel conduct more than 300 missions a year—nearly one a day on average.

Even Laramie, the state’s fourth-largest city, can be a vortex. David Jones notes that although Pilot Hill essentially borders the town, there are many

furrows and places to vanish because it's such a vast area. "Once you start riding around up there," he says, "you realize you could go missing and nobody would ever see you unless they stepped on you."

Albany County Sheriff Aaron Appelhans says his office finds about three-quarters of people who go missing—lost or stranded hikers, snowmobilers, hunters, and elderly people with mental health complications, such as dementia. But he calls that a "very, very generalized statistic," because the cases are so different. In Nash Quinn's case, Appelhans faced a tough reality: Most people who disappear have only been gone for a day or two by the time they are reported missing. Quinn had by that point been gone for about two weeks—and no one knew where. Quinn was also a strong rider traveling by mountain bike, which expanded the potential search area exponentially. "If we don't have a specific location, then we have a wide area to search," Appelhans says. "And those are extremely difficult."

Lacking intel, the sheriff's office zeroed in on Pilot Hill, the popular riding area; Cicarelli thought maybe he'd had an accident there. "I had these ideas in my head where he might be," he says. "And I tried to help, I guess, place people in those areas."

Search teams comprised of six deputies and eight search-and-rescue volunteers fanned out on horseback, motorcycle, and ATV; some hiked with cadaver dogs. Appelhans's personnel also flew drones over the area, hoping to catch a glimpse of Quinn's white bike. At the county's request, officials from the Wyoming Air National Guard sent over a Black Hawk helicopter.

Meanwhile, Quinn's friends and family mobilized. His sister, Tess, created a GoFundMe for a second search effort, and Jera Lodge made up spreadsheets and recruited people to make calls and send out flyers and post on social media. Jones described Quinn and his bike on a web page about Laramie trail conditions. One of Lodge's friends from Houston, Paul Middendorf, who has search-and-rescue experience, organized a parallel effort to the sheriff's. Using a CalTopo digital map to track their efforts, they covered about 400 square miles over three days. "We scoured the area pretty good," Cicarelli says.

Knowing Quinn's preferences for big adventure, Cicarelli got permission to drive around private land on local ranches, some of which are 20,000-plus acres, racking up 150 miles on his Jeep. David Jones also tried a motorized search, but the enormity of the landscape was disheartening. "You're not going

to find him [by] driving around unless he just happened to be sitting there," he says.

About six weeks after Quinn was reported missing, Cicarelli obtained his Google Pixel from the Laramie police; Tess Quinn gave her blessing to examine the phone's contents. Cicarelli discovered that in the week before he disappeared, Quinn ran searches for Sheep Mountain, a remote peak in the Snowy Range Mountains west of Laramie.

Cicarelli had introduced him to Sheep Mountain. When Quinn had moved back, one of the first things they did was go to Cicarelli's family cabin, at about 9,600 feet elevation in the Snowy Range, to perform an annual chimney repair. The next summer, they went again. On the way back, Cicarelli pointed out Sheep Mountain, which he described as a vast, roadless area known to be home to mountain lions. There's one 12-mile-long trail slicing through it. "Maybe we should go ride that sometime," Cicarelli told him. Quinn was excited to be so high up in the range, which was a notch wilder than the trails around Laramie. This was about two weeks before Quinn went missing.

Cicarelli only later realized the relentlessly steep and rugged trail is hard to navigate even on foot. Jones had hunted on Sheep but never took his bike up there. "I know somebody that did ride it," he says, "and they got pretty jacked up coming down a hill, broke some bones and stuff, and had to limp out. I wouldn't consider them bike-riding trails."

That wasn't necessarily a deterrent to Quinn, who was inclined to endure—and even invite—suffering. He often set out with little or no water or food and no repair kit, and rarely wore gloves, though for rougher trails he occasionally borrowed Cicarelli's Carhartt-type work gloves. Once, Cicarelli admonished him after Quinn needed his tools to fix a flat. "I'm like, 'Dude, I'm not gonna be your Sherpa and carry tools for you,'" he says. Quinn finally acquiesced and acquired a small saddlebag, but switched to tubeless tires so he could avoid carrying it.

Cicarelli recalls descending from Pilot Hill one day when a storm swept over. He couldn't see and was pummeled by hail as lightning lit up the mountainside. When he told Quinn about it, his friend's eyes widened. "Oh, man," Quinn told him, "I wish I was with you. I love a good survival ride like that."

One of Quinn's mottos was "safety third"—which seemed only partly a joke, Lodge says, based on their many rides together. "He would use safety measures," she says, "but there was this edge to things."

Presented with the Sheep Mountain information harvested from Quinn's phone, Appelhans mobilized another S&R effort. His teams combed the mountain for nearly two more days, covering 15 or so square miles, but came out empty-handed. Another search, in October, this time with cadaver dogs, also turned up empty. But the mountain, and the broader range, is massive and includes many overhangs, caves, and crevices where someone could have sought cover. "Ultimately," Cicarelli says, "I think he's up there."

AS QUINN'S FRIENDS and family dealt with the aftermath of his disappearance, they began to think back on his actions and behavior, hunting for clues.

The biggest question was his mindset. Cyclists and artists can be their own worst critics, but Quinn's dry humor and humility sometimes tipped into something darker. "Literally everything he tried to do he was great at, but didn't know it," Cicarelli says. "He always thought that he sucked at things." This was not unique to his life in Laramie. "Nash always downplayed anything he did," says his mother, Liz Quinn. "No matter how spectacular it was, he just downplayed it to the point where I didn't really know what he was up to."

His last Instagram post before his disappearance was a series of "glamour shots" of the enameled vessels he'd made over the past year. "Instagram wants me to label these as made with AI," Quinn wrote, "but these are very real, made with my own hands, and there ain't nothing intelligent about me." Quinn tended to be a loner, but his friends worried that Laramie was exacerbating his introversion. It's a transient town, filled with people who were either college students or peers who, by his age, had coupled and had children. "I would say he wasn't terribly social," Cicarelli says. "He would spend a good amount of time alone. That's just kind of how he was."

Quinn didn't seem enamored of the long winters and was perpetually worried about money; he was a struggling artist in a region with a nearly nonexistent arts scene. Lodge and several others discovered in his email that shortly before he disappeared, he'd been asked to cover hundreds of dollars in customs fees for a show in Finland.

Even before he vanished, she had worried about him from afar. "The thing about Nash is that he just kept everybody at arm's length," she says.

Metalsmithing is solitary work, and Carlisle recalls that Quinn was so dedicated that "he lived in the

studios." She and Jones tried to include him in gatherings, but they're from a different generation, had different lives. When he came over, Carlisle says, he was "kind of in his own world."

"Wyoming," she says, "can be a very isolated place."

Friends noticed he was ramping up on what he called "survival rides"—like the mountain bike safaris, but solo, and on his singlespeed. On one, in March 2024, Quinn rode about 60 miles to Crow Creek Reservoir, gaining almost 2,000 vertical feet. "He was always going out and riding to the edge of his ability, to point where it was dangerous," says Cicarelli.

None of this necessarily explains his disappearance, and until Quinn is found there will only be theories: He was hit by a vehicle, thrown into the back of a truck, and buried somewhere. Alone in the wilderness without a phone, he became injured, sought shelter, and never made it out. Liz Quinn says she'd heard that her son had canceled some classes during the one year he taught there due to a medical emergency, and in her grasping attempt to find answers, she speculates that some unknown health problem was a factor in his disappearance. "I thought, that is really weird, because he never had a medical emergency that he didn't tell me about." She says she planned to try to obtain his records. (Russell, the department head, says he recalls being told by a colleague only that Quinn had had a few doctor's appointments.)

His mother also points out that some of Quinn's friends felt that he was depressed. Could he have gone out intending to not come back? Depression "is such a prolonged and insidious thing that for it to be—whatever happened to Nash was abrupt and profound," she says. "And that's why I'm kind of leaning towards some kind of a medical diagnosis that was not okay."

But she also admits her son wasn't one to provide regular updates on his life. "We had to badger him a lot, but I would make sure that I would talk to him at least once a month," she says. "And I was just not hearing back from him."

His friends were indeed worried that Quinn was in a bad place mentally. "I knew he was kind of a private person, and I respected those boundaries," Cicarelli says. "But I think him moving back to Laramie was a bit of a shock." Quinn had built a

community in Houston, and Lodge says she also had recently struggled with moving back to a place she'd spent many years previously, where the social dynamics had shifted. "When you come back, none of that is there anymore," she says. "I felt intensely lonely at first." Lodge thinks it's meaningful that the disappearance happened during "this gap of time where he didn't have any obligations. Nobody would know necessarily where he was or what he was doing."

Depression is a fickle disease; there is no linear path with the disorder. "I've known clinically depressed people in my life," Russell says. "They can be awfully good at hiding it, too. Like, sure, on the outside, on the professional side, everything is like this"—he holds his hand high—"but they're not doing well underneath it."

Russell, for one, ponders Quinn's coinage of the term "survival rides," which suggests a third option that involves neither foul play nor Quinn hurting himself. "I've known clinically depressed people who say, 'I'm just going to get in the car and let go of the wheel,'" Russell says. "And you could tell that they're in that space, where they're not going to fight for it. They're going to let fate take over."

In other words, if Quinn was struggling, he may have set out for one of his survival rides and decided to leave his safety net behind. He may have simply figured, if something happens, it happens.

IN OCTOBER OF last year, Quinn's mother and sister came to Laramie to pack up his apartment and resolve some legal issues relating to his status as a missing person. ("After seven years, he will be declared deceased and then we will get some kind of closure," says Liz Quinn. "May not happen in my lifetime.") Before heading home, they held an informal gathering attended by about 40 people at Bond's Brewing Company in downtown Laramie. Lodge contributed photos of Quinn's art and cycling for a slideshow; several people stood to pay tribute.

For the first time, and likely the last, Quinn's parallel worlds—the art and cycling communities, and his family and friends—merged to celebrate his life. Cicarelli brought in the Bianchi commuter Quinn had brought east after his UW graduation, where it was stolen twice and run over. Undaunted, Quinn welded the rear triangle back together and

kept riding it. "To me," Cicarelli said, "this bike represents Nash to a T, because Nash was a loyal friend; Nash was loyal to his bike; Nash loved metal."

The gathering reminded Carlisle of the intensity with which so many people had come together to search for him. "Just the rallying," Carlisle says. "I wish he could have seen that, known that—how much love, and how many people cared."

For Lodge, Quinn's disappearance hit particularly hard. "It was like an end that hadn't happened yet in some ways," she says.

Quinn's community organized a final search weekend at Sheep a few weeks before the snow came. Several K9 groups from Wyoming, Colorado, and Utah came out; the dog handler hiking with Cicarelli commented that the environment was hard for tracking because of the up- and down-drafts on the steep slopes. And although the official search operations have wrapped, Cicarelli still brings binoculars to Pilot Hill, in case he spots something while riding. He's even gone looking again on rugged Sheep Mountain. "We had some deep conversations before he went missing," he says, "and I think about those quite often."

Wyoming's long winter makes searches even more challenging, especially when the target is a white bike. But Cicarelli told the family that he'll keep looking as long as they want him to. "And [if] you just want to let him rest," he told them, "I'll stop."

Art, like bicycle riding, can be a solitary pursuit, or something that brings people together. Maybe each reminded Quinn of the other; his goal, articulated in one YouTube video, was to create "work that is remarkable for the object that it is and for the experience that it gives you." A bike fits that description.

Both also involve the mastery of intricate and precise engineering—and Quinn seemed inexorably drawn to mechanisms that made sense, that could tame chaos, that could click together in a way that brought order to a messy world. Conquer those things, and maybe the unwieldier parts could be endured.

This feels like a central paradox of Quinn's life. He mastered the workings of small, intricate objects, and the results were both art and mechanical magic. He crafted objects beyond imagining. But when it came to assembling the disparate components of a life that he felt content living, the parts didn't seem to fit.

What happened on Quinn's last ride? Those answers will eventually come—hopefully. In the meantime, everyone left behind will wonder what happened—or, as Quinn might put it, how the click went away. **B**

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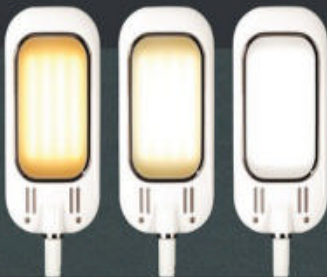
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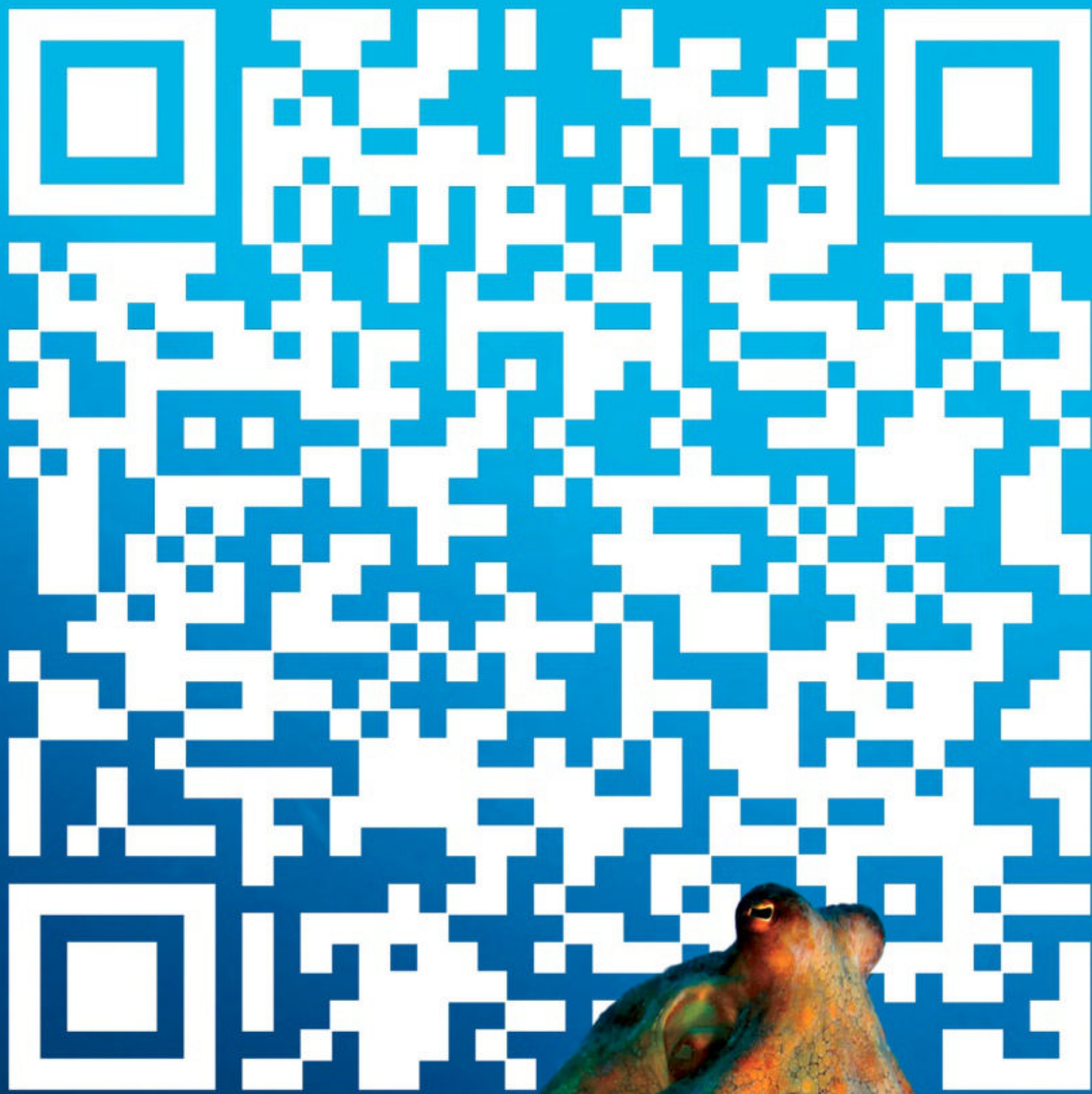
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